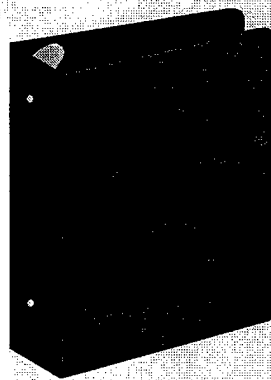


RISK MANAGEMENT



TRAINING SUPPORT PACKAGE

FOR

LEADERS

(COMPANY/PLATOON LEVEL)

DISTRIBUTION STATEMENT A
Approved for Public Release
Distribution Unlimited



DTIC QUALITY INSPECTED 4

20000929 041

JANUARY 1997

TABLE OF CONTENTS

ADMINISTRATIVE DATA.....	i
LESSON GUIDE.....	1
SECTION I -- INTRODUCTION.....	1
TERMINAL LEARNING OBJECTIVE.....	1
SECTION II -- PRESENTATION.....	2
ENABLING LEARNING OBJECTIVE 1	2
ENABLING LEARNING OBJECTIVE 2.....	3
ENABLING LEARNING OBJECTIVE 3	4
ENABLING LEARNING OBJECTIVE 4	6
ENABLING LEARNING OBJECTIVE 5	10
ENABLING LEARNING OBJECTIVE 6	13
ENABLING LEARNING OBJECTIVE 7	15
SECTION III -- SUMMARY	18
SECTION IV -- STUDENT EVALUATION	19
APPENDICES	
A. VIEWGRAPH FACSIMILES.....	A-1
B. STUDENT HANDOUT.....	B-1
C. PE SOLUTIONS.....	C-1
D. QUIZ AND ANSWER KEY.....	D-1
E. EVALUATION EXERCISE AND SCENARIOS.....	E-1

PLEASE CHECK THE APPROPRIATE BLOCK BELOW:

AO# _____



_____ copies are being forwarded. Indicate whether Statement A, B, C, D, E, F, or X applies.



DISTRIBUTION STATEMENT A:

APPROVED FOR PUBLIC RELEASE: DISTRIBUTION IS UNLIMITED



DISTRIBUTION STATEMENT B:

DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES ONLY; (Indicate Reason and Date). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO (Indicate Controlling DoD Office).



DISTRIBUTION STATEMENT C:

DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES AND THEIR CONTRACTORS; (Indicate Reason and Date). OTHER REQUESTS FOR THIS DOCUMENT SHALL BE REFERRED TO (Indicate Controlling DoD Office).



DISTRIBUTION STATEMENT D:

DISTRIBUTION AUTHORIZED TO DoD AND U.S. DoD CONTRACTORS ONLY; (Indicate Reason and Date). OTHER REQUESTS SHALL BE REFERRED TO (Indicate Controlling DoD Office).



DISTRIBUTION STATEMENT E:

DISTRIBUTION AUTHORIZED TO DoD COMPONENTS ONLY; (Indicate Reason and Date). OTHER REQUESTS SHALL BE REFERRED TO (Indicate Controlling DoD Office).



DISTRIBUTION STATEMENT F:

FURTHER DISSEMINATION ONLY AS DIRECTED BY (Indicate Controlling DoD Office and Date) or HIGHER DoD AUTHORITY.



DISTRIBUTION STATEMENT X:

DISTRIBUTION AUTHORIZED TO U.S. GOVERNMENT AGENCIES AND PRIVATE INDIVIDUALS OR ENTERPRISES ELIGIBLE TO OBTAIN EXPORT-CONTROLLED TECHNICAL DATA IN ACCORDANCE WITH DoD DIRECTIVE 5230.25. WITHHOLDING OF UNCLASSIFIED TECHNICAL DATA FROM PUBLIC DISCLOSURE. 6 Nov 1984 (indicate date of determination). CONTROLLING DoD OFFICE IS (Indicate Controlling DoD Office).



This document was previously forwarded to DTIC on _____ (date) and the AD number is _____



[In accordance with provisions of DoD instructions, the document requested is not supplied because:



It will be published at a later date. (Enter approximate date, if known).



Other. (Give Reason)

DoD Directive 5230.24, "Distribution Statements on Technical Documents," 18 Mar 87, contains seven distribution statements, as described briefly above. Technical Documents must be assigned distribution statements.

Cynthia Gleisberg

Authorized Signature/Date

Cynthia Gleisberg

Print or Type Name

DSN 205 558-2924

Telephone Number

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

F. EVALUATION SCENARIO & WORKSHEET SOLUTIONS.....	F-1
G. APPLICATION TRAINING.....	G-1
H. EVALUATION SUMMARY SHEET.....	H-1
I. ADVANCE SHEET.....	AS-1

ADMINISTRATIVE DATA

1. This lesson is for use at company level and below.

2. Learning objectives.

a. Terminal Learning Objective (TLO). As a leader, apply the risk management process to a mission training plan task in a garrison or tactical environment. Specifically, the leader will correctly answer questions about basic risk management concepts and terms, and complete the worksheet for the scenario provided in accordance with the risk management worksheet instructions.

b. Enabling Learning Objectives (ELOs).

(1) Identify the three categories of accident cause factors.

(2) Define the underlying sources (reasons) of accident cause factors.

(3) Identify and define key terms associated with risk management.

(4) Identify hazards using METT-T factors, available hazard detection resources and personal experience/expertise.

(5) Determine the level of risk.

(6) Develop control options and make risk decisions.

(7) Determine how to implement, supervise, and evaluate the effectiveness of controls.

3. Tasks taught or supported in the lesson: none.

4. Tasks reinforced in this lesson: none

5. Prerequisite lessons: none.

6. Clearance and access. This is an unclassified lesson.

7. Developmental references: Small Unit Risk Management Booklet, Leader's Guide to Force Protection through Risk Management Book and the Small Unit Leader's Force Protection Course Lesson Guide.

8. Student requirements:

a. Before class. Review Advance Sheet.

b. During class. Participate in classroom discussion and complete the practical exercise, quiz and evaluation exercise.

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

- c. After class. Review notes and lesson materials.
- 9. Instructor requirements.
 - a. Before class. Familiarize yourself with all lesson materials. Issue the advance sheet to soldiers.
 - b. During class. Issue the student handout and explain to soldiers that they should use the handout to record notes during the class. Conduct the class as stated in the lesson guide.
 - c. After class. Bring any lesson material discrepancies to the attention of the Unit Safety Officer.
- 10. Additional support personnel requirements: none.
- 11. Equipment required for the instruction: one overhead projector and screen.
- 12. Materials required for the instruction.
 - a. Instructor materials:
 - (1) viewgraphs
 - (2) one student handout per soldier.
 - (3) one quiz per soldier
 - (4) one evaluation exercise scenario and a blank risk management worksheet with instructions per soldier.
 - b. Student materials: Pencils and writing paper. Small Unit Risk Management Booklet, Unit Safety SOP.
- 13. Classroom, training area, or range requirements: one classroom.
- 14. Ammunition requirements: none.
- 15. Instructional guidance: This TSP contains enough material to support an in-depth discussion of each step in the risk management process. However, due to time constraints, you must take special care to keep the discussion focused.

LESSON GUIDE

SECTION I -- INTRODUCTION

MOTIVATOR:

Show VGT: TSP-2

NOTE: State the following:

IN EVERY OPERATION, WHETHER TACTICAL TRAINING, COMBAT OR OPERATIONS OTHER THAN WAR (OOTW), FORCE PROTECTION IS ESSENTIAL TO SUCCESS. HISTORICALLY, THE U.S. ARMY HAS SUFFERED MORE LOSSES TO ACCIDENTS (INCLUDING FRATRICIDE) THAN TO ENEMY ACTION WHILE DEPLOYED IN COMBAT THEATERS. TYPICALLY, THESE ACCIDENTS ARE THE SAME TYPES EXPERIENCED IN PEACETIME DURING EXERCISES AT HOME STATION AND AT COMBAT TRAINING CENTERS. RISK MANAGEMENT IS THE ARMY'S PRINCIPAL RISK-REDUCTION PROCESS TO PROTECT THE FORCE. EFFECTIVE RISK MANAGEMENT WILL HELP INDIVIDUALS AT ALL LEVELS TO PREVENT ACCIDENTS, THEREBY SAVING LIVES AND PRESERVING OUR COMBAT POWER.

TERMINAL LEARNING OBJECTIVE (TLO):

ACTION: Apply the risk management process to a mission training plan task,

CONDITION: as a leader, given a task in a garrison or tactical environment,

STANDARDS: correctly answer questions about basic risk management concepts and terms. Also, complete the risk management worksheet for the scenario provided in accordance with the risk management worksheet instructions.

SAFETY CONSIDERATIONS: None

TRAINING RISK ASSESSMENT CODE: L

ENVIRONMENTAL CONSIDERATIONS: None

NOTE: State the following:

EVALUATION: AT THE END OF THIS LESSON YOU WILL BE REQUIRED TO TAKE A QUIZ, CORRECTLY ANSWERING AT LEAST 80% OF THE QUESTIONS. ADDITIONALLY, YOU WILL APPLY THE RISK MANAGEMENT PROCESS TO A MISSION TRAINING PLAN TASK IN AN EVALUATION EXERCISE. IN THE EXERCISE , YOU WILL COMPLETE THE RISK MANAGEMENT WORKSHEET FOR THE SCENARIO PROVIDED. THE COMPLETED RISK MANAGEMENT WORKSHEET MUST MEET THE FOLLOWING CRITERIA:

1. IDENTIFY AT LEAST FOUR HAZARDS ASSOCIATED WITH METT-T CONDITIONS OF THE SCENARIO.
2. BLOCKS 6, 7, 8, 11, AND 12 ARE CORRECTLY COMPLETED FOR AT LEAST FOUR HAZARDS.
3. IDENTIFY THE CORRECT OVERALL MISSION/TASK RISK LEVEL IN BLOCK 9.
4. IDENTIFY THE CORRECT RISK DECISION AUTHORITY IN BLOCK 10.

INSTRUCTIONAL LEAD IN: State the following:

IN THIS INSTRUCTION, YOU WILL EXAMINE THE APPLICATION OF RISK MANAGEMENT TO EVERYDAY OPERATIONS.

RISK MANAGEMENT WILL CONSERVE COMBAT POWER ASSETS, ENABLING YOU TO ACCOMPLISH YOUR MISSION SUCCESSFULLY AND TO PROTECT THE FORCE FROM UNNECESSARY LOSSES OR ACCIDENTS.

BEFORE YOU CAN UNDERSTAND AND APPLY RISK MANAGEMENT, YOU NEED TO UNDERSTAND WHAT CAUSES ACCIDENTS.

ENABLING LEARNING OBJECTIVE:

ACTION: Identify the three categories of accident cause factors,

CONDITION: in a garrison or tactical environment,

STANDARD: in accordance with the Small Unit Risk Management Booklet.

Learning Activity 1 (ELO 1)

Media: VGTs: TSP-3

QUESTION: WHAT ARE THE THREE CATEGORIES OF ACCIDENT
CAUSE FACTORS?

Remove VGT

ANSWER: HUMAN ERROR, MATERIAL FAILURE/MALFUNCTION AND
ENVIRONMENTAL FACTORS

Show VGT: TSP-3

Accidents are caused by one or a combination of cause factors. There are three (3) categories of cause factors; human error, material failure/malfunction and environmental factors.

Human error is when an individual's actions or performance is different from what is required and causes or contributes to an accident.

Material failure/malfunction is when a fault in the equipment keeps it from working as designed and causes or contributes to an accident.

Environmental conditions become a factor when they are allowed to injure personnel, damage equipment or have a negative affect on the performance of individuals or equipment and this causes or contributes to an accident. This includes conditions such as visibility, weather, noise, terrain, work surfaces, plants, animals and insects.

ENABLING LEARNING OBJECTIVE:

ACTION: Define the underlying sources (reasons) of accident cause factors,

CONDITION: in a garrison or tactical environment,

STANDARD: in accordance with the Small Unit Risk Management Booklet.

Learning Activity 2 (ELO 2)

Media: VGTs: TSP 4 & 4A

QUESTION: WHAT ARE THE ROOT CAUSES OF ACCIDENTS?

Remove VGT

ANSWER: (SEE VGT, TSP-4) INDIVIDUAL FAILURE, LEADER FAILURE, TRAINING FAILURE, STANDARDS FAILURE AND SUPPORT FAILURE.

Show VGT: TSP-4

Accident cause factors stem from five underlying sources. These sources are individual failure, leader failure, training failure, standards failure, and support failure.

Individual failure occurs when the soldier knows and is trained to standard but elects not to follow the standard (self-discipline). Individual failure is attributed to the soldier's attitude, fatigue (self-induced), overconfidence, haste, alcohol or drugs.

Leaders that do not enforce known standards regardless of whether the soldier is in the direct chain-of-command or not, constitute a **Leader failure**.

A **Training failure** happens when soldiers are not trained to a known standard because of insufficient, incorrect or no training on the task.

Standards or procedures that are unclear, impractical, or do not exist constitute a **Standards failure**.

Support failure occurs when equipment and/or resources are improperly designed or not provided. This includes insufficient number or type of personnel and equipment, and inadequate maintenance, facilities or services.

Remove VGT

Show VGT: TSP-4A

ENABLING LEARNING OBJECTIVE:

ACTION: Identify and define key terms associated with risk management,

CONDITION: in a garrison or tactical environment,

STANDARD: in accordance with the Small Unit Risk Management Booklet.

Learning Activity 3 (ELO 3)

Media: VGTs: TSP-5 thru TSP-9

You now know what the causes of accidents are and the sources of these causes. This will help you to relate accident problem areas to the risk management process. However, before we get into the process, we need to define key terms associated with risk management.

Remove VGT

Show VGT: TSP-5

Risk Management -- a 5 step process of identifying and controlling hazards to protect the force.

Remove VGT

Show VGT: TSP-6

Hazard -- any real or potential condition that can cause injury, illness, or death of personnel, or damage to or loss of equipment or property, or mission degradation. For example, a hazard is cold weather - the result is frostbite.

NOTE: Emphasise the difference between what a hazard is and the what result of a hazard is.

Risk -- chance of hazard or bad consequences; exposure to chance of injury or loss.

Remove VGT

Show VGT: TSP-7

Risk level is expressed in terms of hazard probability and severity.

Probability -- the likelihood that an event will occur.

Severity -- the expected consequence of an event in terms of degree of injury, property damage, or other mission-impairing factors (loss of combat power, adverse publicity, etc.) that could occur.

Remove VGT

Show VGT: TSP-8

Risk Assessment -- the identification and assessment of hazards (first two steps of the risk management process).

Controls -- actions taken to eliminate hazards or reduce their risk.

Remove VGT

Show VGT: TSP-9

Residual Risk -- the level of risk remaining after controls have been identified and selected for hazards that may result in loss of combat power. Controls are identified and selected until residual risk is at an acceptable level or until it cannot be practically reduced further.

Risk Decision -- the decision to accept or not accept the risk(s) associated with an action; made by the commander, leader, or individual responsible for performing that action.

ENABLING LEARNING OBJECTIVE:

ACTION: Identify hazards using METT-T factors, available hazard detection resources and personal experience/expertise,

CONDITION: given a scenario, in a garrison or tactical environment,

STANDARD: in accordance with the Small Unit Risk Management Booklet.

Learning Activity 4 (ELO 4)

Media: VGTs: TSP-10 thru TSP-13

QUESTION: WHAT IS THE FIRST STEP OF RISK MANAGEMENT?

ANSWER: IDENTIFY HAZARDS.

Show VGT: TSP-10

Step one is: **Identify Hazards** - Identify hazards to the force. Consider all aspects of current and future situations, environment, and known historical problem areas.

Remove VGT

Show VGT: TSP-11

There are many areas to consider when identifying hazards. To avoid overlooking an area, a framework is needed. The METT-T factors provide that framework.

Mission - specified, implied and subtasks (who, what, where, when and how).

Enemy - size and capability (SALUTE). Impact of enemy acquisition, direct fire, indirect fire, and fratricide.

Terrain/Weather - Environmental conditions such as inclined, uneven, rough or slippery surfaces; visibility (dark, dust, fog); precipitation (rain, snow, mist); noise; and area of operation characteristics (availability and accessibility).

Troops and Equipment - The amount and type of training the soldiers have, what skills are needed, the number and physical condition of the soldiers required for the mission/task. Consider the amount, type, design and condition of equipment that is available versus what is required.

Time - The amount of time available to plan, rehearse, and conduct the mission/task.

Remove VGT

Show VGT: TSP-12

Consider the condition of each METT-T factor to identify hazards ***most likely*** to result in loss of combat power. A way to do this is to take each identified (METT-T) hazard and determine if it is adequately controlled at your echelon or the next lower echelon.

Remove VGT

Show VGT: TSP-13

. To determine if the hazard is adequately controlled, answer the five (5) questions about support, standards, training, leader and individual. If the answer to all five (5) questions is "yes", no further risk management action is required. If one or more answers are "no", then this hazard should be risk managed.

Remove VGT

Show VGT: TSP-14

To be effective, detection of hazards should go beyond your own knowledge. What you don't know can affect the mission. Using detection resources, techniques and tools gives you a better chance on identifying hazards that might occur during the mission.

One way is through brainstorming. Since no two individuals share exactly the same experiences, a good way to detect hazards is to get more people involved (share experiences).

Use the experts. Consult with people such as, master gunners, safety officers, maintenance sergeants, technical inspectors, logistics assistance officers (LAO) etc.,.

Reference publications. Review SOPs, ARs, TMs, FM, Safety of Use Messages, Ground Precautionary Messages and Maintenance Advisory Messages for information about hazards.

Review related accident information. Local or Installation Safety Offices can provide information on accident trends and problem areas. Other good sources of accident information can be found in Countermeasure and Flight Fax publications, Safety Alert Messages and safety bulletins.

Scenario thinking is another tool that can be used. It involves visualizing the flow of an operation, the events that take place, and the things that could go wrong.

There are many other tools and techniques that can be used. Whatever is used will be determined by time and mission constraints. Use what works for you.

QUESTION: WHEN DO WE APPLY THIS STEP DURING TROOP
LEADING PROCEDURES?

Remove VGT

ANSWER: (SEE VGT, TSP - 15) TROOP LEADING PROCEDURES; 1-
RECEIVE THE MISSION, 2-ISSUE THE WARNING ORDER, AND 3-MAKE A
TENTATIVE PLAN.

Show VGT: TSP-15

Remove VGT

Conduct Exercise (PE1): Have the soldiers go to pages B-6 & 7 of the student handout and do practical exercise - activity 1. This exercise can be done in small groups or individually. Once the soldiers have completed the practical exercise, discuss their solutions. You can refer to the sample solutions in Appendix C.

PRACTICAL EXERCISE-ACTIVITY 1

INSTRUCTIONS: Use the scenario below, the risk management worksheet and instructions (on pgs B-8 thru B-10 of the student handout), the Small Unit Risk Management Booklet, and a sheet of paper to perform the following tasks:

1. Read the scenario.
2. Fill in block 1 of the worksheet with the primary mission/task.
3. Fill in block 2 of the worksheet with the mission/task date time group (DTG) - enter DTG when the mission/task is planned to begin and when it is planned to end.
4. Fill in block 3 of the worksheet with today's date - enter day/month/year.
5. Fill in block 4 of the worksheet with your rank, last name and duty position.
6. Identify METT-T factors from the scenario and list them on a sheet of paper.
7. Identify hazards associated with the METT-T factors from the scenario. List the hazards in block 5 of the worksheet. Leave space (approximately 2 inches) between each hazard. Be prepared to discuss your list.
8. Once you have completed this exercise put your worksheet to the side; you will need it for the next practical exercise.

NOTE: PE Scenario is on the next page of this lesson guide

PE SCENARIO

TASK: PERFORM TACTICAL ROADMARCH
ARTEP 7-8 MTP (7-3-1123), FM 7-8, FM 21-18

MISSION: 1st Plt, A Co conducts a dismounted tactical roadmarch 060700JunXX along RT Blue to occupy new company TAA Cobra.

SITUATION: It is day five of a company seven day FTX and the commander has given you, the platoon leader, a warning order 051200JunXX to conduct the roadmarch. The SP time for the roadmarch is 060700JunXX securing TAA Cobra NLT 061300JunXX. The remainder of the company will occupy TAA Cobra 061800JunXX. Enemy dismounted patrols (5-10 personnel) have been reported operating along RT Blue within the last twelve hours. Current location and strength of patrols is unknown.

CONDITIONS: TAA Cobra from your current location is approximately 15km. The terrain along RT Blue is uneven, small hills and heavily vegetated in some areas.

The weather has been humid and hot. Temperatures have been reaching the low 90's during the day and the low 70's at night. No precipitation is forecasted for the next 48 hours.

The platoon is at 90% strength with only one team leader position not filled. The platoon has been resupplied with food, water, and ammunition since the last mission and has enough for each to carry a basic load.

FACTS: You have been assigned as platoon leader for the last six months. During this time you have participated in the battalion EIB, company lane training and one other company three day FTX. Based on your experience you know that:

- Platoon is acclimated to roadmarch conditions. Twenty personnel trained for EIB last month with four awarded EIB.
- Three personnel have had previous "heat related injuries".
- One squad only has one combat lifesaver. The TACSOP requires that each squad is assigned two combat lifesaver qualified personnel.
- Received three new personnel to platoon prior to FTX. Rest of platoon have been together for the last four months.

Resources: ARTEP 7-8 MTP, FM 7-8, FM 21-18, Small Unit Risk Management Booklet and Unit SOP.

ENABLING LEARNING OBJECTIVE:

ACTION: Determine the level of risk,

CONDITION: using identified hazards and a risk assessment matrix, in a garrison or tactical environment,

STANDARD: in accordance with the Small Unit Risk Management Booklet.

Learning Activity 5 (ELO 5)

Media: VGTs: TSP-16 thru TSP-20

QUESTION: WHAT IS THE SECOND STEP OF RISK MANAGEMENT?

ANSWER: (SEE VGT, TSP-16) ASSESS THE HAZARDS.

Show VGT: TSP-16

Remove VGT

Show VGT: TSP-17

The risk assessment matrix is an effective tool to use for determining the risk level. To use the matrix you must first classify the hazard's probability.

QUESTION: DEFINE PROBABILITY.

ANSWER: THE LIKELIHOOD THAT AN EVENT WILL OCCUR (DUE TO THE HAZARD).

Remove VGT

Show VGT: TSP-18

Probability is divided into five categories: frequent, likely, occasional, seldom and unlikely. The number of occurrences and amount of exposure determine the category.

The probability is categorized as **frequent** when an event occurs often in the life of a system for an individual item and is experienced continuously in a fleet or inventory. It occurs often in a soldier's career or is continuously experienced by all soldiers exposed.

A hazard's probability is categorized as **likely** when there is a good possibility that an event will occur several times in the life of a system or soldier's career and is experienced a lot by the fleet, inventory or soldiers exposed.

A hazard's probability is categorized as **occasional** if the event occurs once in a while such as, once in the life of a system or career of a soldier, or several times within a fleet or inventory, or occurs sporadically to all soldiers exposed.

A hazard's probability is categorized as **seldom** if there is a remote possibility that an event will occur in the life of an individual piece of equipment or the career of a soldier. For a fleet or inventory, it would be unlikely but can be expected and would occur seldom to all soldiers exposed.

Finally, a hazard's probability is categorized as **unlikely** when the possibility that an event would occur to in the life of an item or the career of a soldier is so rare that you can assume that it will not occur. It would most likely not occur within the fleet or inventory and very rarely occurs to all soldiers exposed.

Remove VGT

Show VGT: TSP-19

Reading the matrix from left to right brings us to severity. The expected consequence of an event in terms of degree of injury, property damage, or other mission impairing factors (loss of combat power, adverse publicity, etc.) that could occur.

The category with the most serious impact is **catastrophic**. The results being death or permanent total disability, a systems loss or major property damage.

Critical. The end result is severe injury. That is, permanent partial disability or temporary total disability in excess of three months for personnel, and major systems damage or significant property damage.

Marginal. Results in minor injury, or lost workday accident for personnel. Minor systems or property damage.

Negligible. First aid or less required. Minor systems impairment.

Remove VGT

Reshow VGT: TSP-17

Once you have matched the hazard's probability and the hazard's severity, find the block where they intersect and there you will find the risk level: E - for Extremely high; H - for high; M- for Moderate; L- for Low.

QUESTION: WHEN DO WE ASSESS HAZARDS DURING TROOP LEADING PROCEDURES?

Remove VGT

ANSWER: (SEE VGT, TSP-20, ASSESSING HAZARDS GOES HAND IN HAND WITH STEP THREE OF TROOP LEADING PROCEDURES; MAKE A TENTATIVE PLAN.

Show VGT: TSP-20

Remove VGT

Conduct Exercise (PE2): Have the soldiers complete practical exercise-activity 2 on page B-13 of the student handout. Once they have finished, discuss their solutions. Refer to the sample solutions in Appendix C.

PRACTICAL EXERCISE - Activity 2

INSTRUCTIONS: Use the scenario and the risk management worksheet from the previous exercise, the Small Unit Risk Management Booklet, and the risk assessment matrix on page B-14, to:

1. Determine the probability of each hazard you listed in block 5.
2. Determine the severity of each hazard you listed in block 5.
3. Based on probability and severity, determine the risk level of each hazard and enter the risk level in block 6 of the risk management worksheet.
4. Be prepared to discuss your assessment.

ENABLING LEARNING OBJECTIVE:

ACTION: Develop control options and make risk decision.

CONDITION: using the assessment from the previous step, in a garrison or tactical environment,

STANDARD: in accordance with the Small Unit Risk Management Booklet.

Learning Activity 6 (ELO 6)

Media: VGTs: TSP-21 thru TSP-23

QUESTION: WHAT IS THE THIRD STEP OF RISK MANAGEMENT?

ANSWER: (SEE VGT, TSP-21) DEVELOP CONTROLS AND MAKE A RISK DECISION.

Show VGT: TSP-21

Step three: **Develop Controls and Make Risk Decision** - Develop control measures that eliminate the hazard or reduce it's risk.

Remove VGT

Show VGT: TSP-22

After assessing the hazards, review existing control measures that can be applied to each hazard to lower it's risk level. If implementation does not adequately lower the risk level, adjust the existing controls or select controls that will. If no controls exist, you will have to develop them.

When developing controls, give consideration to realism, time, money and other requirements (who will do what, by when, and how). The controls selected, regardless of whether they already existed or are newly developed, should minimize the chance of accidents and maximize the chance of mission accomplishment.

After selecting controls, reassess each hazard to determine it's level of residual risk. As control measures are developed, re-evaluate the risk and add controls until the risk is reduced to a level where benefits outweigh potential cost. Based on SOP's, planning guidance, OPORD/FRAGO coordinating instructions, and mission or task instructions determine the overall mission/task risk. If there is no guidance to determine the overall risk, the overall risk level is the same as the hazard with the highest residual risk. Use the unit SOP to determine the appropriate risk acceptance authority. If the SOP doesn't include this guidance, use the procedures outlined on page 14 of the Small Unit Risk Management Booklet.

Remove VGT

QUESTION: DURING WHAT STEP OF TROOP LEADING PROCEDURES DO WE DEVELOP CONTROLS AND MAKE THE RISK DECISION?

ANSWER: (SEE VGT TSP-23) WHILE COMPARING COURSES OF ACTION, MAKING THE DECISION AND EXPANDING THE SELECTED COA INTO A TENTATIVE PLAN.

Show VGT: TSP-23

Remove VGT

Conduct Exercise (PE3): Have the soldiers complete practical exercise activity 3 on page B-16 of the student handout. Once the soldiers have completed the exercise, discuss their solutions using the sample solutions in Appendix C.

PRACTICAL EXERCISE- Activity 3

INSTRUCTIONS: Use the scenario and risk management worksheet from the previous exercise, the Small Unit Risk Management Booklet, and a risk assessment matrix to:

1. Develop at least one control for each hazard and list them on a sheet of paper.
2. Select the controls best suited for the mission that either eliminate the risk of each hazard or reduce it to an acceptable level . Enter the controls in block 7 of the risk management work sheet.
3. Determine the level of risk remaining for each hazard, assuming the controls you selected are implemented. Enter the residual risk level for each hazard in block 8.
4. Determine the overall mission/task risk level. Circle the appropriate level in block 9 of the worksheet.
5. Based on the risk level you circled in block 9, enter the risk approval authority information in block 10. If you are the authority, decide whether or not to accept the level of risk. If the risk level exceeds your authority stop here for this exercise (normally you would forward it through the chain of command to the appropriate approval authority for acceptance).
6. Be prepared to discuss your controls and decision.

ENABLING LEARNING OBJECTIVE:

ACTION: Discuss how to implement, supervise, and evaluate the effectiveness of controls.

CONDITION: in a garrison or tactical environment,

STANDARD: in accordance with the Small Unit Risk Management Booklet.

Learning Activity 7 (ELO 7)

Media: VGTs: TSP-24 thru TSP 29.

QUESTION: WHAT IS THE FORTH STEP OF RISK MANAGEMENT?

ANSWER: (SEE VGT TSP-24) IMPLEMENT CONTROLS.

Show VGT: TSP-24

Step four: **Implement Controls** - Put controls in place that eliminate the hazards or reduce their risk.

Remove VGT

Show VGT: TSP-25

Controls are executed by the individuals involved in the task/mission and should address who will do what, by when. Incorporate controls into operations and communicate them down to the lowest level. This can be accomplished by incorporating control measures in **Standing Operating Procedures (SOP'S)**, in written and verbal **orders**, during mission or safety **briefings and back-briefs**. Another way would be to incorporate controls when conducting **rehearsals**. This method is very effective because it then becomes second nature, a routine way of conducting the mission. Remember "Train as you Fight".

Last, the design of **new equipment** often incorporates added control measures for safer operations.

QUESTION: WHEN IS IMPLEMENTATION OF CONTROLS ACCOMPLISHED WHILE CONDUCTING TROOP LEADING PROCEDURES?

Remove VGT

ANSWER: (SEE VGT, TSP-26) DURING STEPS 4 THROUGH 7; INITIATE MOVEMENT, RECONNOITER, COMPLETE THE PLAN, AND ISSUE THE ORDER.

Show VGT: TSP-26

QUESTION: WHAT IS THE LAST STEP OF THE RISK MANAGEMENT PROCESS?

Remove VGT

ANSWER: (SEE VGT, TSP-27) SUPERVISE AND EVALUATE.

Show VGT: TSP-27

Step Five: Supervise and evaluate - Perform to, and enforce standards and controls. Evaluate the effectiveness of controls and adjust/update as necessary.

Remove VGT

Show VGT: TSP-28

Supervision and responsibility go hand in hand. **All soldiers** are responsible for supervising themselves (**self-discipline**). What that means is that every soldier is responsible for **performing to standard and executing controls**. Also, every soldier is responsible for **recognizing unsafe acts or conditions** and, depending on the situation and time requirements, making on-the-spot corrections and/or bringing it to the attention of the chain of command. **Leaders** and supervisors are also responsible for **ensuring standards and controls are adhered to and enforced**. Some ways to accomplish this are spot checks, inspections, situation reports, buddy checks and continuous or direct supervision.

All personnel involved in the implementation of controls should be part of the evaluation process. Individuals responsible for the implementation of controls should evaluate their effectiveness using feedback from the soldiers and adjust or update controls as necessary. Once the mission has been completed, ensure that an After Action Review (AAR) is conducted with your subordinates and superiors.

RISK MANAGEMENT IS THE ARMY'S PROCESS FOR PROTECTING THE FORCE. AS LEADERS, YOU ARE RESPONSIBLE FOR USING THIS PROCESS TO IDENTIFY AND CONTROL HAZARDS WHILE YOU PLAN AND EXECUTE THE MISSIONS AND TASKS YOU HAVE BEEN ORDERED TO ACCOMPLISH. YOU ARE ALSO RESPONSIBLE FOR ENSURING YOUR SOLDIERS USE THE RISK MANAGEMENT PROCESS EFFECTIVELY WHEN THEY PLAN AND EXECUTE THE TASKS YOU HAVE ASSIGNED THEM. THE TRAINING YOU HAVE JUST COMPLETED SHOULD ENABLE YOU TO DO THIS. YOU SHOULD NOW BE ABLE TO UNDERSTAND THE BASIC CONCEPTS AND TERMS OF RISK MANAGEMENT AND APPLY THE 5-STEP PROCESS TO YOUR MISSIONS. THIS TRAINING SHOULD ALSO HAVE PROVIDED YOU WITH THE ABILITY TO USE A SIMILAR LESSON PLAN TO TRAIN YOUR SOLDIERS HOW TO APPLY RISK MANAGEMENT TO COMMON SOLDIER TASKS.

Show VGT: TSP-30

Remove VGT

CHECK ON LEARNING

Note: Briefly quiz the soldiers on all learning activities. Clarify any questions the students have.

SECTION IV -- STUDENT EVALUATION

TESTING REQUIREMENTS: State the following:

a. Written Quiz: AT THE END OF THIS INSTRUCTION YOU WILL HAVE 30 MINUTES TO COMPLETE A 40 QUESTION QUIZ. YOU MUST CORRECTLY ANSWER AT LEAST 80% OF THE QUESTIONS.

b. Evaluation exercise: AFTER YOU COMPLETE THE QUIZ, YOU WILL HAVE 30 MINUTES TO APPLY THE RISK MANAGEMENT PROCESS TO A MISSION TRAINING PLAN TASK IN AN EVALUATION EXERCISE. IN THE EXERCISE , YOU WILL COMPLETE THE RISK MANAGEMENT WORKSHEET FOR THE SCENARIO PROVIDED. THE COMPLETED WORKSHEET MUST MEET THE FOLLOWING CRITERIA:

1. IDENTIFY AT LEAST FOUR HAZARDS ASSOCIATED WITH THE METT-T CONDITIONS OF THE SCENARIO.
2. BLOCKS 6, 7, 8, 11, AND 12 ARE CORRECTLY COMPLETED FOR AT LEAST FOUR HAZARDS.
3. IDENTIFY THE CORRECT OVERALL MISSION/TASK RISK LEVEL IN BLOCK 9.
4. IDENTIFY THE CORRECT RISK DECISION AUTHORITY IN BLOCK 10.

NOTE: State - YOU WILL BE ALLOWED TO USE THE SMALL UNIT RISK MANAGEMENT BOOKLET AND THE RISK MANAGEMENT WORKSHEET INSTRUCTIONS DURING THE QUIZ AND EVALUATION EXERCISE.

RISK MANAGEMENT FORCE XXI

Battle and Non-Battle Casualties

Rate* per 1,000 soldiers and percent

Army	W.W.II 1942-45	Korea 1950-53	Vietnam 1965-72	DS/S 1990-91	NTC FY93 (BLUFOR-GROUND)
Accident	95.57 56%	120.33 44%	154.66 54%	11.14 75%	2.23 3%
Friendly Fire	1.50*** 1%	3.03*** 1%	2.67*** 1%	.68 5%	7.87**** 9%
Enemy Action	73.61 43%	148.56 55%	131.20 45%	2.90 20%	74.17**** 88%

* Per 12 months for W.W.II, Korea and Vietnam; 14 months for DS/S; per rotation NTC.

** Deaths and injuries (ground and aviation) for entire war/operation.

*** Research based estimate (2% of all direct- and indirect- fire losses).

**** Simulated (MILES) direct fire vehicle kills.

CAUSE FACTORS

- *Human Error* - an individual's actions or performance is different than what is required and results in or contributes to an accident.
- *Material Failure/Malfunction* - a fault in the equipment that keeps it from working as designed, therefore causing or contributing to an accident.
- *Environmental Conditions* - any natural or manmade surroundings that negatively affect performance of individuals, equipment or materials and causes or contributes to an accident.

SOURCES OF CAUSE FACTORS

Individual Failure - Soldier knows and is trained to standard but elects not to follow the standard (self-discipline).

Leader Failure - Leader does not enforce known standard.

Training Failure - Soldier not trained to known standard (insufficient, incorrect or no training on task).

Standards Failure - Standards/procedures not clear or practical, or do not exist.

Support Failure - Equipment/material improperly designed/not provided.

SOURCES OF CAUSE FACTORS

EXAMPLES

Individual Failure - Soldier knows there is a requirement to be certified on servicing tires and although he isn't certified, he attempts to service the tire anyway so he won't have to wait for maintenance personnel. Can't be that hard.

Leader Failure - Supervisor sees the soldier changing the tire and doesn't stop him.

Training Failure - Soldier has never had any training on how to service split rims and didn't know that a tire cage and air extension is required for inflation.

Standards Failure - The unit SOP requires the use of a tire cage, however it does not require the use of a twelve foot air gage extension.

Support Failure - The unit tire cage was not properly constructed and the unit does not have a twelve foot extension for the air gage.

Key Definitions

- ***Risk Management*** - the process of identifying and controlling hazards to protect the force.
 - ◆ It's five steps represent a logical thought process from which users develop tools, techniques, and procedures for applying risk management in their areas of responsibility.
 - ◆ It is a closed-loop process applicable to any situation and environment.

Key Definitions

- ***Hazard*** - any real or potential condition that can cause injury, illness or death of personnel, or damage to, or loss of equipment or property, or mission degradation. (AR 310-25)
- ***Risk*** - chance of hazard or bad consequences; exposure to chance of injury or loss. (Oxford Dictionary, 1976)

Key Definitions

- ***Risk level*** is expressed in terms of hazard probability and severity.
- ◆ ***Probability*** - the likelihood that an event will occur.
- ◆ ***Severity*** - the expected consequence of an event in terms of degree of injury, property damage, or other mission impairing factors (loss of combat power, etc.,) that could occur.

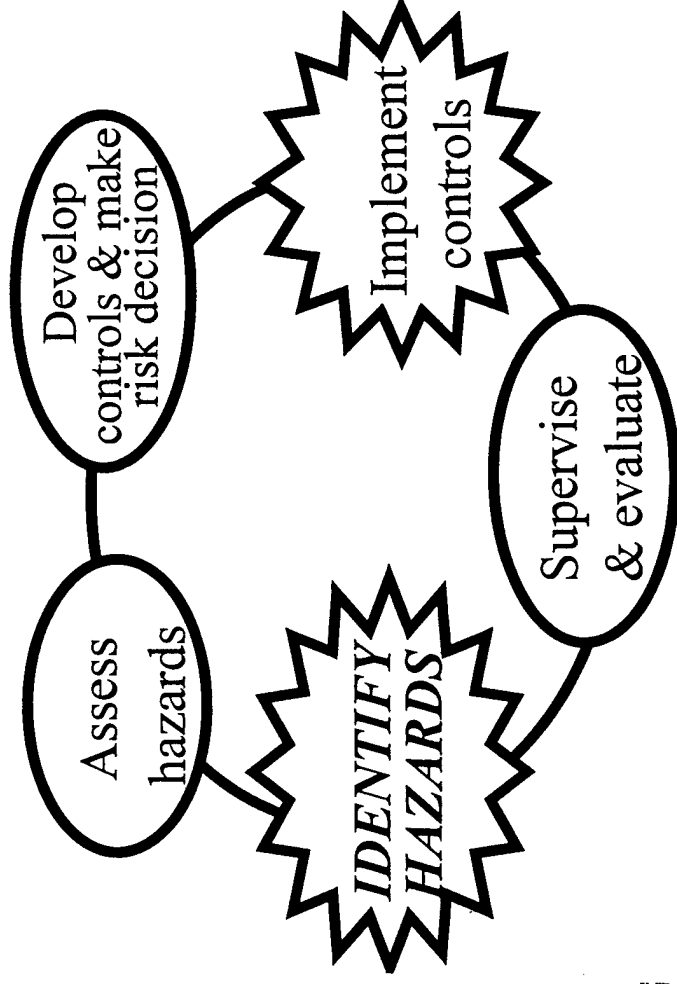
Key Definitions

- ***Risk Assessment*** - the identification and assessment of hazards (first two steps of the Risk Management process).
- ***Controls*** - actions taken to eliminate hazards or reduce their risk(s).

Key Definitions

- ***Residual Risk*** - the level of risk remaining after controls have been identified and selected.
- ***Risk Decision*** - the decision to accept or not accept the risk(s) associated with an action made by the commander, leader, or the individual responsible for performing that action.

Risk Management Process



- ***Identify Hazards.*** Identify hazards to the force. Consider all aspects of current and future situations, environment, and known historical problem areas.

METT-T

Mission- Specified, implied and subtasks.

Enemy - Size and capability (SALUTE).

Terrain/Weather - Environmental conditions.

Troops and Equipment -

- Troops - training, type, number, and physical condition.
- Equipment - amount, type, design, and condition.

Time available - plan, rehearse, and conduct .

ID HAZARDS - OBJECTIVE

OBJECTIVE - Identified those hazards **most likely** to result in loss of combat power

CRITERIA **For “Most Likely Hazard”** - Hazard is not adequately controlled at this echelon or next lower echelon.

- Hazard should be tracked via risk management work sheet.

IS THE HAZARD ADEQUATELY CONTROLLED?

Adequate
YES NO

<p><i>Identified METT-T hazard</i></p>	-Support - Is type/amount/capability/condition of support adequate to control hazard? - Personnel - Equipment/material - Supplies - Services/facilities		
	-Standards - Is guidance/procedure adequately clear/practical/specific to control hazard?		
	- Training - Is training adequately thorough and recent to control hazard?		
	- Leader - Are leaders ready, willing and able to enforce standards required to control hazard?		
	- Individual - Is soldier performance and conduct sufficiently self-disciplined to control hazard?		

A - If all "yes", no further action.
- If one or more "no", risk manage this hazard.

Detection Resources and Techniques

- **Brain Storming**
- **Experts**
- **Publications**
- **Accident Information**
- **Scenario Thinking**

WHILE YOU ARE DOING THIS



TROOP LEADING PROCEDURES

- RECEIVE THE MISSION
- ISSUE THE WARNING ORDER
- MAKE A TENTATIVE PLAN

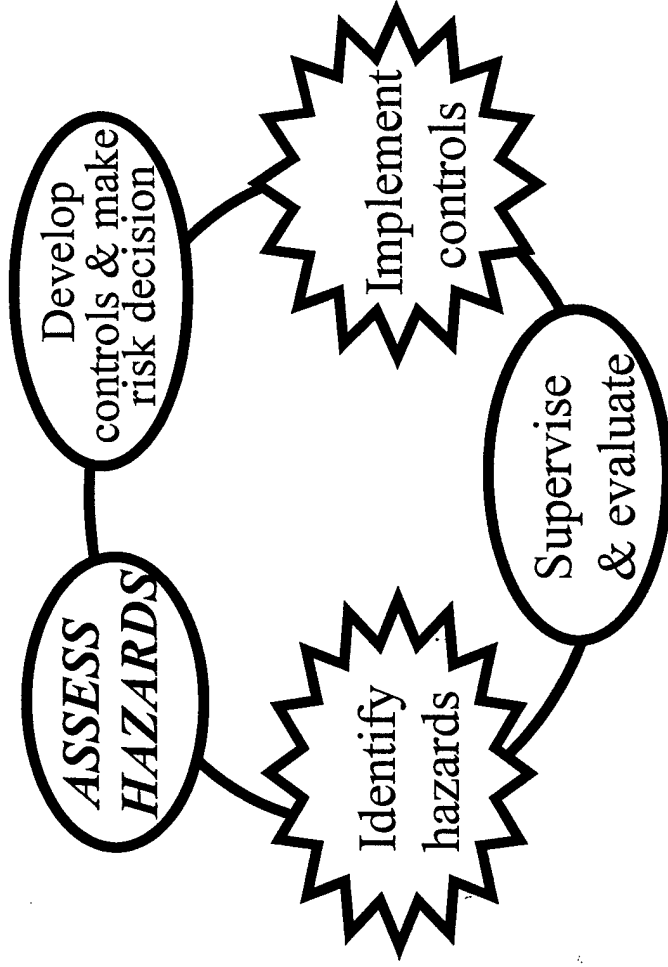
DO THIS



IDENTIFY HAZARDS

Risk Management Process.

- **Assess Hazards.**
Assess hazards to determine risks.
Assess the impact of each hazard in terms of potential loss and cost, based on probability and severity.



RISK ASSESSMENT MATRIX

RISK ASSESSMENT MATRIX						
		PROBABILITY				
		FREQUENT	LIKELY	OCCASIONAL	SELDOM	UNLIKELY
S E V E R I T Y	CATASTROPHIC	E	E	H	H	M
	CRITICAL	E	H	H	M	L
	MARGINAL	H	M	M	L	L
	NEGLECTIBLE	M	L	L	L	L

E - EXTREMELY HIGH RISK
H - HIGH RISK
M - MODERATE RISK
L - LOW RISK

PROBABILITY			
Frequent	Likely	Occasional	Seldom
			Unlikely

Frequent - Occurs often, continuously experienced.

Likely - Occurs several times.

Occasional - Occurs sporadically.

Seldom - Unlikely, but could occur at some time.

Unlikely - Can assume it will not occur.

SEVERITY

S E V E R I T Y	
Catastrophic	Death or permanent total disability, system loss, major property damage.
Critical	Permanent partial disability, temporary total disability in excess of 3 months, major system damage, significant property damage.
Marginal	Minor injury, lost workday accident, compensable injury or illness, minor system damage, minor property damage.
Negligible	First aid or minor supportive medical treatment, minor system impairment.

WHILE YOU ARE DOING THIS



TROOP LEADING PROCEDURES

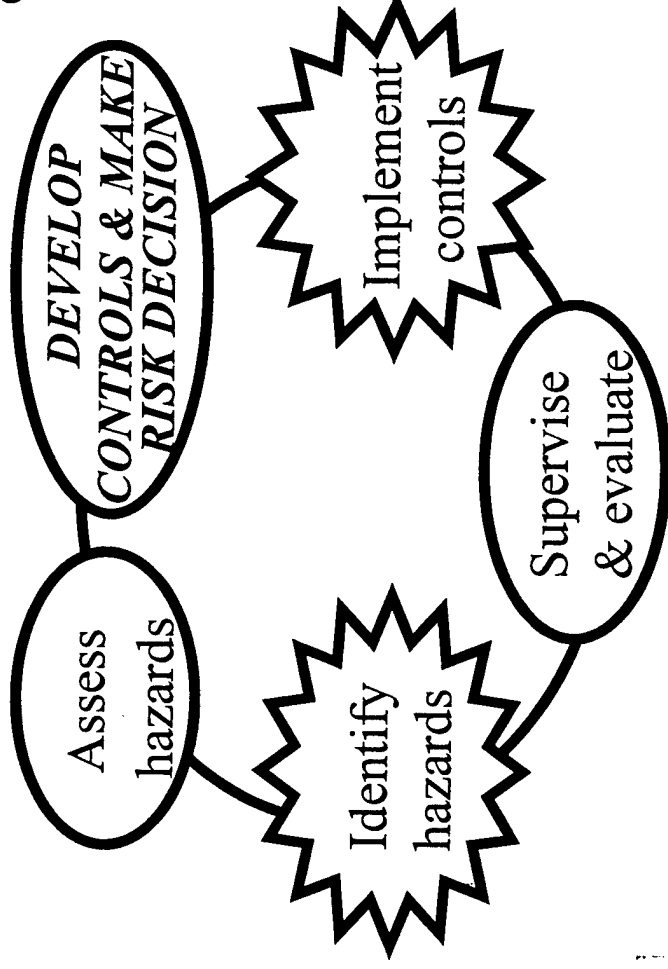
- **"MAKE A TENTATIVE PLAN"**
- **MAKE AN ESTIMATE OF THE SITUATION**
- **DEVELOP SITUATION AND COA**
- **ANALYZE COURSES OF ACTION**
- **DETAILED MISSION ANALYSIS**

DO THIS



ASSESS THE HAZARDS

Risk Management Process.



- ***Develop Controls and Make Risk Decisions.***

Develop control measures that eliminate the hazard or reduce its risk. As control measures are developed, risks are reevaluated until all risks are reduced to a level where benefits outweigh potential cost.

Develop Controls & Make Risk Decision

CONTROLS

For each hazard

- Implement existing controls if adequate, if not
- Adjust to make adequate or develop new controls

Consider:

- Realism, time, money and resources
- Minimize chance of accidents
- Maximize chance of mission accomplishment

DECISION

- Determine level of residual risk
- Have the *appropriate level* of command accept risk

WHILE YOU ARE DOING THIS



TROOP LEADING PROCEDURES

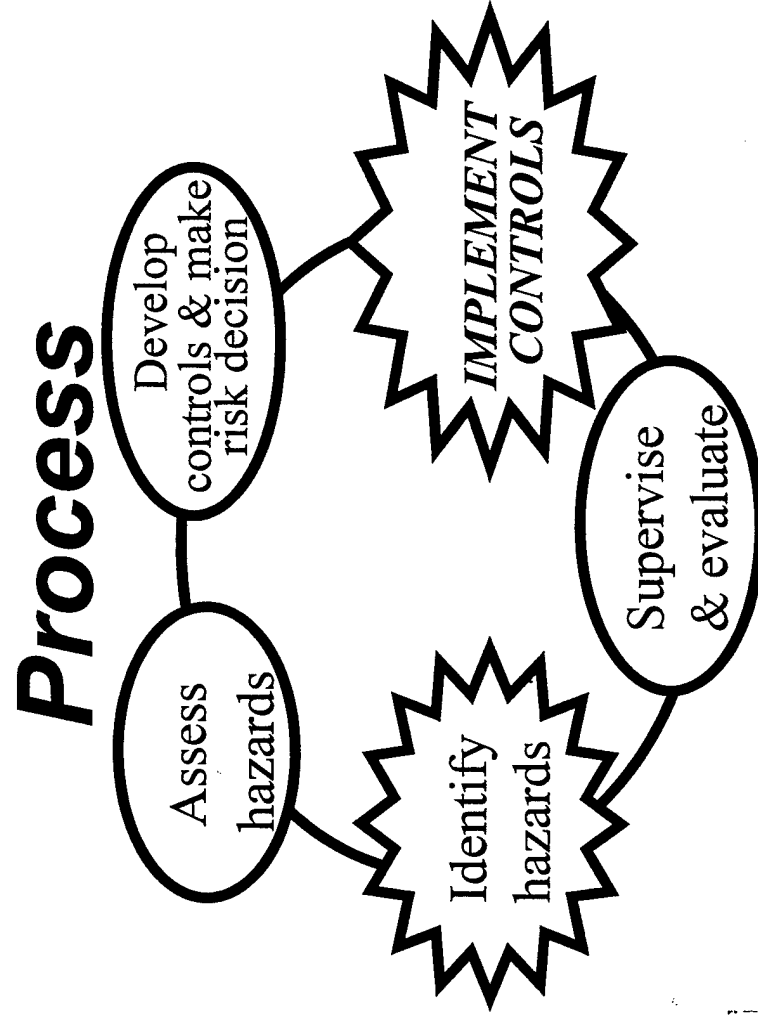
- COMPARING COURSES OF ACTION
- MAKING DECISION
- EXPANDING SELECTED COA INTO A TENTATIVE PLAN

DO THIS



DEVELOP CONTROLS AND MAKE RISK DECISION

Risk Management Process



- ***Implement Controls.***

Put controls in place that eliminate the hazards or reduce their risks.

IMPLEMENT CONTROLS

- ◆ **Standing Operating Procedures (SOP'S)**
- ◆ **Orders**
- ◆ **Briefings and back-briefs**
- ◆ **Training**
- ◆ **Rehearsals**
- ◆ **New equipment**

WHILE YOU ARE DOING THIS



TROOP LEADING PROCEDURES

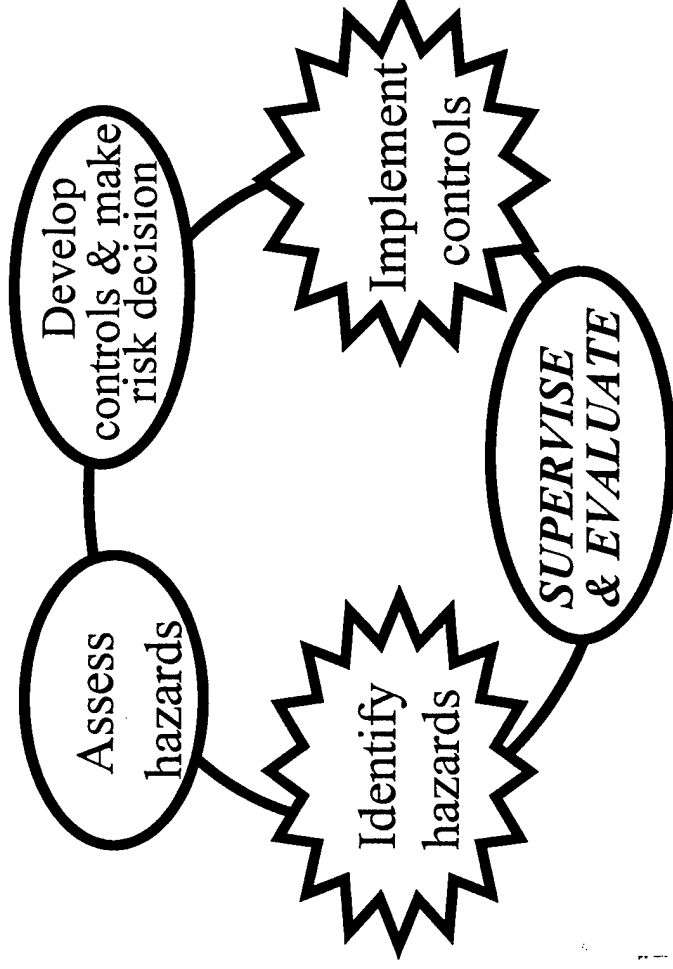
- INITIATING MOVEMENT
- RECONNOITERING
- COMPLETING THE PLAN
- ISSUING THE ORDER

DO THIS



IMPLEMENT CONTROLS

Risk Management Process



Supervise & Evaluate.

Perform to, and enforce standards and controls.
Evaluate the effectiveness of controls and adjust/update as necessary.

Supervise

All Soldiers responsible (self-discipline) for:

- Performing to standard***
- Executing controls***
- Recognizing unsafe acts or conditions***

Leaders are also responsible for enforcement

Evaluate

- Effectiveness of Controls (adjust/update)***
- Feedback - AAR's***

WHILE YOU ARE DOING THIS



TROOP LEADING PROCEDURES

- SUPERVISE AND REFINE
THE PLAN**

DO THIS



SUPERVISE AND EVALUATE

'Risk management is the Army's principal risk-reduction process to protect the force. Our goal is to make risk management a routine part of planning and executing operational missions.'

Chief of Staff, Army, July 1995

APPENDIX B

STUDENT HANDOUT

TERMINAL LEARNING OBJECTIVE (TLO):

ACTION: Apply the risk management process to a task,

CONDITION: given a task in a garrison or tactical environment,

STANDARDS: correctly answer questions about basic risk management concepts and terms. Also, complete the risk management worksheet for the scenario provided in accordance with the risk management worksheet instructions.

SAFETY CONSIDERATIONS: None

TRAINING RISK ASSESSMENT CODE: L

ENVIRONMENTAL CONSIDERATIONS: None

In this instruction, you will examine the application of risk management to everyday operations. Risk management will conserve combat power assets, enabling you to accomplish your mission successfully and to protect the force from unnecessary losses or accidents. Before you can understand and apply risk management, you need to understand what causes accidents.

ENABLING LEARNING OBJECTIVE:

ACTION: Identify the three categories of accident cause factors,

CONDITION: in a garrison or tactical environment,

STANDARD: in accordance with TF XXI Small Unit Risk Management Booklet.

Learning Activity 1 (ELO 1)

1. Accidents are caused by one or a combination of cause factors. There are three (3) categories of cause factors; human error, material failure/malfunction and environmental factors.

a. **Human error** is when an individual's actions or performance is different from what is required and causes or contributes to an accident.

b. **Material failure/malfunction** is when a fault in the equipment keeps it from working as designed and causes or contributes to an accident.

c. **Environmental conditions** become a factor when they are allowed to injure personnel, damage equipment or have a negative affect on the performance of individuals or equipment and this causes or contributes to an accident. This includes conditions such as visibility, weather, noise, terrain, work surfaces, plants, animals and insects.

ENABLING LEARNING OBJECTIVE:

ACTION: Define the underlying sources (reasons) of accident cause factors,

CONDITION: in a garrison or tactical environment,

STANDARD: in accordance with TF XXI Small Unit Risk Management Booklet.

Learning Activity 2 (ELO 2)

2. Accident cause factors stem from five underlying sources. These sources are individual failure, leader failure, training failure, standards failure, and support failure.

a. **Individual failure** occurs when the soldier knows and is trained to standard but elects not to follow the standard (self-discipline). Individual failure is attributed to the soldier's attitude, fatigue (self-induced), overconfidence, haste, alcohol or drugs.

b. **Leader failure.** Leaders that do not enforce known standards regardless of whether a soldier is in the direct chain-of-command or not, constitute a Leader failure.

c. **Training failures** happen when soldiers are not trained to a known standard because of insufficient, incorrect or no training on the task.

d. **Standards failure** occur when standards or procedures are unclear, impractical, or do not exist and are required.

e. **Support failure** occurs when equipment and/or resources are improperly designed or not provided. This includes insufficient number or type of personnel and equipment and inadequate maintenance, facilities and or services.

ENABLING LEARNING OBJECTIVE:

ACTION: Identify and define key terms associated with risk management,

CONDITION: in a garrison or tactical environment,

STANDARD: in accordance with TF XXI Small Unit Risk Management Booklet.

Learning Activity 3 (ELO 3)

3. You now know what the causes of accidents are and the sources of these causes. This will help you to relate accident problem areas to the risk management process. However, before we get into the process, we need to define key terms associated with risk management.

a. **Risk Management** -- a 5 step process of identifying and controlling hazards to protect the force.

b. **Hazard** -- any real or potential condition that can cause injury, illness, or death of personnel, or damage to or loss of equipment or property, or mission degradation. For example, a hazard is cold weather - the result is frostbite.

c. **Risk** -- chance of hazard or bad consequences; exposure to chance of injury or loss.

d. **Risk level** is expressed in terms of hazard probability and severity.

e. **Probability** -- the likelihood that an event will occur.

f. **Severity** -- the expected consequence of an event in terms of degree of injury, property damage, or other mission-impairing factors (loss of combat power, etc.) that could occur.

g. **Risk Assessment** -- the identification and assessment of hazards (first two steps of the risk management process).

h. **Controls** -- actions taken to eliminate hazards or reduce their risk.

i. **Residual Risk** -- the level of risk remaining after controls have been identified and selected for hazards that may result in loss of combat power. Controls are identified and selected until residual risk is at an acceptable level or until it cannot be practically reduced further.

j. **Risk Decision** -- the decision to accept or not accept the risk(s) associated with an action; made by the commander, leader, or individual responsible for performing that action.

ENABLING LEARNING OBJECTIVE:

ACTION: Identify hazards using METT-T factors, available hazard detection resources and personal experience/expertise,

CONDITION: given a scenario, in a garrison or tactical environment,

STANDARD: in accordance with TF XXI Small Unit Risk Management Booklet.

Learning Activity 4 (ELO 4)

4. Step one: Identify Hazards - Identify hazards to the force. Consider all aspects of current and future situations, environment, and known historical problem areas.

a. There are many areas to consider when identifying hazards. To avoid overlooking an area, a framework is needed. The METT-T factors provide that framework.

(1) **Mission** - specified, implied and subtasks (who, what, where, when and how).

(2) **Enemy** - size and capability (SALUTE). Impact of enemy acquisition, direct fire, indirect fire, and fratricide.

(3) **Terrain/Weather** - Environmental conditions such as inclined, uneven, rough or slippery surfaces; visibility (dark, dust, fog); precipitation (rain, snow, mist,); noise; and area of operation characteristics (availability and accessibility).

(4) **Troops and Equipment** - The amount and type of training the soldiers have, what skills are needed, the number and physical condition of the soldiers required for the mission/task. Consider the amount, type, design and condition of the equipment that is available versus what is required.

(5) **Time** - The amount of time available to plan, rehearse, and conduct the mission/task.

b. Consider the condition of each METT-T factor to identify hazards **most likely** to result in loss of combat power. A way to do this is to take the identified (METT-T) hazard and determine if it is adequately controlled at your echelon or the next lower echelon, using the (reasons) for accident cause factors

c. To determine if the hazard is adequately controlled, answer the five (5) questions about support, standards, training, leader and individual. If the answer to all five (5) questions is "yes", no further risk management action is required. If one or more answer is "no", then this hazard should be risk managed.

d. To be effective, detection should go beyond your own knowledge. What you don't know can affect the mission. Using **detection resources, techniques** and tools gives you a better chance of identifying hazards that might occur during the mission.

(1) One way is through **brainstorming**. Since no two individuals share exactly the same experiences, a good way to detect hazards is to get more people involved (share experiences).

(2) Use the **experts**. Consult with people such as, master gunners, safety officers, maintenance sergeants, technical inspectors, logistics assistance officers (LAO) etc.,.

(3) Reference **publications**. Review SOPs, ARs, TMs, FMs, Safety of Use Messages, Ground Precautionary Messages and Maintenance Advisory Messages for information about hazards.

(4) Review related **accident information**. Local or Installation Safety Offices can provide information on accident trends and problem areas. Other good sources of accident information can be found in Countermeasure and Flight Fax publications, Safety Alert Messages and safety bulletins.

(5) **Scenario thinking** is another tool that can be used. It involves visualizing the flow of an operation, the events that take place, and the things that could go wrong.

There are many other tools and techniques that can be used. Whatever is used will be determined by time and mission constraints. Use what works for you.

Perform this step of risk management which is identify hazards, during the first three steps of Troop Leading Procedures; 1- Receive the mission, 2 - Issue the warning order, and 3- Make a tentative plan.

PRACTICAL EXERCISE - ACTIVITY 1

INSTRUCTIONS: Use the scenario below, the risk management worksheet and instructions (pgs B-8 thru B-10), the Small Unit Risk Management Booklet, and a sheet of paper to complete the following:

1. Read the scenario.
2. Fill in block 1 of the worksheet with the primary mission/task.
3. Fill in block 2 of the worksheet with the mission/task date time group (DTG) - enter DTG when the mission/task is planned to begin and when it is planned to end.
4. Fill in block 3 of the worksheet with today's date - enter day/month/year.
5. Fill in block 4 of the worksheet with your rank, last name and duty position.
6. Identify METT-T factors from the scenario and list them on a sheet of paper.
7. Identify hazards associated with your list of METT-T factors from the scenario. List the hazards in block 5 of the worksheet. Leave space (approximately 2 inches) between each hazard. Be prepared to discuss your work.
8. Once you have completed this exercise put your worksheet to the side; you will need it for the next practical exercise.

PE SCENARIO

TASK: PERFORM TACTICAL ROADMARCH
ARTEP 7-8 MTP (7-3-1123), FM 7-8, FM 21-18

MISSION: 1st Plt, A Co conducts a dismounted tactical roadmarch 060700JunXX along RT Blue to occupy new company TAA Cobra.

SITUATION: It is day five of a company seven day FTX and the commander has given you, the platoon leader, a warning order 051200JunXX to conduct the roadmarch. The SP time for the roadmarch is 060700JunXX securing TAA Cobra NLT 061300JunXX. The remainder of the

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

company will occupy TAA Cobra 061800JunXX. Enemy dismounted patrols (5-10 personnel) have been reported operating along RT Blue within the last twelve hours. Current location and strength of patrols is unknown.

CONDITIONS: TAA Cobra from your current location is approximately 15km. The terrain along RT Blue is uneven, small hills and heavily vegetated in some areas.

The weather has been humid and hot. Temperatures have been reaching the low 90's during the day and the low 70's at night. No precipitation is forecasted for the next 48 hours.

The platoon is at 90% strength with only one team leader position not filled. The platoon has been resupplied with food, water, and ammunition since the last mission and has enough for each to carry a basic load.

FACTS: You have been assigned as platoon leader for the last six months. During this time you have participated in the battalion EIB, company lane training and one other company three day FTX. Based on your experience you know that:

- Platoon is acclimated to roadmarch conditions. Twenty personnel trained for EIB last month with four awarded EIB.
- Three personnel have had previous "heat related injuries".
- One squad only has one combat lifesaver. The TACSOP requires that each squad is assigned two combat lifesaver qualified personnel.
- Received three new personnel to platoon prior to FTX. Rest of platoon have been has been together for the last four months.

Resources: ARTEP 7-8 MTP, FM 7-8, FM 21-18, Small Unit Risk Management Booklet and Unit SOP.

PAGE 1 of

1. MSN/TASK :	2. DTG BEGIN : END :	3. DATE PREPARED:
4. PREPARED BY: _____ RANK/LAST NAME/DUTY POSITION _____		

5. HAZARDS	6. INITIAL RISK LEVEL	7. CONTROLS	8. RESIDUAL RISK LEVEL	11. HOW TO IMPLEMENT	12. HOW TO SUPERVISE	13. CONTROLS EFFECTIVE

<p>9. OVERALL RISK LEVEL AFTER CONTROLS ARE IMPLEMENTED (CIRCLE ONE):</p> <p>LOW MODERATE HIGH EXTREMELY HIGH</p>	<p>10. RISK DECISION AUTHORITY:</p> <p>_____</p> <p>RANK/LAST NAME/DUTY POSITION</p>
---	---

RISK MANAGEMENT WORKSHEET

PAGE ____ of ____

5. HAZARDS	6. INITIAL RISK LEVEL	7. CONTROLS	8. RESIDUAL RISK LEVEL	11. HOW TO IMPLEMENT	12. HOW TO SUPERVISE	13. EFFECT CONTROL OLIVE

BLOCK

1. Mission/Task - Describe the mission/task to be executed For example: Platoon Attack by Fire.
2. Mission/task date time group (DTG) - Enter DTG when the mission/task is planned to begin and when it is planned to be completed.
3. Date prepared - Enter day/month/year the worksheet was prepared.
4. Prepared by - Enter the rank, last name and duty position of the person who prepared the worksheet.
5. Identify hazards - Identify hazards by reviewing METT-T facts for this mission/task. That is, about mission, enemy, terrain, weather, troops, equipment and time. Sources of METT-T facts and historical hazards include: mission/task instructions, recon, experience of leaders and troops, unit SOPs, unit accident history, Small Unit Risk Management Booklet and NTC Force Protection Study Guide. Objective is to identify hazards that are most likely to result in accidental injury, damage or mission degradation. Enter hazards in block 5.
6. Assess hazards - Determine the risk of each hazard by applying the risk assessment matrix included at the end of these instructions and on page 13 of the Small Unit Risk Management Booklet. For each hazard, enter in block 6 it's risk level. That is, enter L (Low), M (Moderate), H (High), or E (Extremely High).
7. Develop controls - For each hazard, develop one or more controls to eliminate or reduce the risk. As needed, specify the who, what, where, when and how of each control. Sources for controls include those listed above for block 5. Enter the controls in block 7.
8. Determine residual risk - For each hazard, use the risk assessment matrix included at the end of these instructions and on page 13 of the Small Unit Risk Management Booklet to determine the level or risk remaining after the controls are implemented. Enter the level of residual risk for each hazard in block 8.
9. Determine mission/task overall risk. Use procedures outlined in the Unit SOP. If the Unit SOP does not have procedures to determine overall mission/task risk, this risk level is the same as the hazard with the highest residual risk. Circle risk level in block 9 at the bottom of the worksheet.
10. Make risk decision - Decide to accept or not accept the level of residual risk for this mission/task. Use the unit SOP to determine who is authorized to accept what level of risk. If the SOP does not give this guidance, use the procedures on page 14 of the Small Unit Risk Management Booklet. In block 10, enter the rank, name, position of the appropriate risk decision authority for the risk level circled in block 9.

US ARMY SAFETY CENTER RISK MANAGEMENT FOR LEADERS

JAN 97

11. Implement controls - For each control, enter in block 11 how it will be put into effect and/or communicated to the personnel who will make it happen. For example; verbal order, SOP's, OPORD, rehearsals.

12. Supervise - In block 12, enter how each control will be monitored to ensure it is implemented. For example; direct supervision, continuous supervision, spot checks, situation reports, inspections, buddy system, or soldier self-discipline.

13. Evaluate - After the mission/task is completed, determine the effectiveness of each control reducing the risk of the targeted hazard. In block 13, enter "yes" if the control was effective. Enter "no", if the control was not effective. For each control that was not effective, determine why and what to do the next time this hazard is identified. For example; change the control, develop a different control or change how the control will be implemented or supervised.

ENABLING LEARNING OBJECTIVE:

ACTION: Determine the level of risk,

CONDITION: using identified hazards and a risk assessment matrix, in a garrison or tactical environment,

STANDARD: in accordance with TF XXI Small Unit Risk Management Booklet.

Learning Activity 5 (ELO 5)

5. **Step two: Assess Hazards** - Assess hazards to determine risks. Assess the impact of each hazard in terms of potential loss and cost based on probability and severity. The risk assessment matrix is an effective tool to use for determining the risk level.

a. To use the matrix you must first classify the hazard's probability. **Probability** is divided into five categories: frequent, likely, occasional, seldom and unlikely. The number of occurrences and amount of exposure determine the category.

(1) The probability is categorized as **frequent** when an event occurs often in the life of a system for an individual item and is experienced continuously in a fleet or inventory. It occurs often in a soldier's career or is continuously experienced by all soldiers exposed.

(2) A hazard's probability is categorized as **likely** when there is a good possibility that an event will occur several times in the life of a system or soldier's career and is experienced a lot by the fleet, inventory or soldiers exposed.

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

(3) A hazard's probability is categorized as **occasional** if the event occurs once in a while such as, once in the life of a system or career of a soldier, or several times within a fleet or inventory, or occurs sporadically to all soldiers exposed.

(4) A hazard's probability is categorized as **seldom** if there is a remote possibility that an event will occur in the life of an individual piece of equipment or the career of a soldier. For a fleet or inventory, it would be unlikely but can be expected and would occur seldom to all soldiers exposed.

(5) Finally, a hazard's probability is categorized as **unlikely** when the possibility that an event would occur to in the life of an item or the career of a soldier is so rare that you can assume that it will not occur. It would most likely not occur within the fleet or inventory and very rarely occurs to all soldiers exposed.

b. Reading the matrix from left to right brings us to **severity**. The expected consequence of an event in terms of degree of injury, property damage, or other mission impairing factors (loss of combat power, adverse publicity, etc.) that could occur.

(1) The category with the most serious impact is **catastrophic**. The results being death or permanent total disability, a systems loss or major property damage.

(2) **Critical**. The end result is severe injury. That is, permanent partial disability or temporary total disability in excess of three months for personnel, and major systems damage or significant property damage.

(3) **Marginal**. Results in minor injury, or lost workday accident for personnel. Minor systems or property damage.

(4) **Negligible**. First aid or less required. Minor systems impairment.

c. Once you have matched the hazard's probability and the hazard's severity, find the block where they intersect and there you will find the **risk level**; E - for Extremely high; H - for high; M- for Moderate; L- for Low.

Assess hazards during step three of Troop Leading Procedures; Make a tentative plan.

PRACTICAL EXERCISE - Activity 2

INSTRUCTIONS: Use the scenario and the risk management worksheet from the previous exercise, the Small Unit Risk Management Booklet, and the risk assessment matrix on the next page to:

1. Determine the probability of each hazard you listed in block 5.
2. Determine the severity of each hazard you listed in block 5.
3. Based on probability and severity, determine the risk level of each hazard and enter the risk level in block 6 of the risk management worksheet.
4. Be prepared to discuss your assessment.

INDIVIDUAL HAZARD RISK ASSESSMENT

RISK ASSESSMENT MATRIX						
E - EXTREMELY HIGH RISK H - HIGH RISK M - MODERATE RISK L - LOW RISK		PROBABILTY				
		FREQUENT	LIKELY	OCCASSIONAL	SELDOM	UNLIKELY
S E V E R I T Y	CATASTROPHIC	E	E	H	H	M
	CRITICAL	E	H	H	M	L
	MARGINAL	H	M	M	L	L
	NEGLIGABLE	M	L	L	L	L

Probability - the likelihood that an event will occur

Frequent - Occurs often, continuously experienced.

Likely - Occurs several times.

Occasional - Occurs sporadically.

Seldom - Unlikely, but could occur at sometime.

Unlikely - Can assume it will not occur.

Severity - the expected consequence of an event in terms of degree of injury, property damage, or other mission impairing factors.

Catastrophic - Death or permanent total disability, system loss, major property damage.

Critical - Permanent partial disability, temporary total disability in excess of 3 months, major system damage, significant property damage.

Marginal - Minor injury, lost workday accident, minor system damage minor property damage.

Negligible - First aid or minor medical treatment, minor system impairment.

ENABLING LEARNING OBJECTIVE:

ACTION: Develop control options and make risk decision.

CONDITION: using the assessment from the previous step, in a garrison or tactical environment,

STANDARD: in accordance with TF XXI Small Unit Risk Management Booklet.

Learning Activity 6 (ELO 6)

6. Step three: Develop Controls and Make Risk Decision - Develop control measures that eliminate the hazard or reduce it's risk.

a. After assessing the hazards, review existing control measures that can be applied to each hazard to lower it's risk level. If implementation does not adequately lower the risk level, adjust the existing controls or select controls that will.

b. If no controls exist, you will have to develop them. When developing controls, give consideration to realism, time, money and other requirements (who will do what, by when, and how). The controls selected, regardless of whether they already exist or are newly developed, should minimize the chance of accidents and maximize the chance of mission accomplishment.

c. After selecting controls, **reassess each hazard to determine it's level of residual risk**. As control measures are developed, re-evaluate the risk and add controls until the risk is reduced to a level where benefits outweigh potential cost.

d. Based on SOP's, planning guidance, OPORD/FRAGO coordinating instructions, and mission or task instructions **determine the overall mission/task risk**. If there is no guidance to determine the overall risk, the overall risk level is the same as the hazard with the highest residual risk.

e. Use the unit SOP to **determine the appropriate risk acceptance authority**. If the SOP doesn't include this guidance, use the procedures outlined on page 14 of the Small Unit Risk Management Booklet.

Incorporate this step of risk management while comparing courses of action, decision and expanding selected COA into a tentative plan during Troop Leading Procedures.

PRACTICAL EXERCISE- Activity 3

INSTRUCTIONS: Use the scenario and risk management worksheet from the previous exercise, the Small Unit Risk Management Booklet, and the risk assessment matrix to:

1. Develop controls for each hazard and list them on a sheet of paper.
2. Select the controls best suited for the mission that either eliminate the risk of each hazard or reduce it to an acceptable level . Enter the controls in block 7 of the work sheet.
3. Determine the level of risk remaining for each hazard, assuming the controls you selected are implemented. Enter the residual risk level for each hazard in block 8.
4. Determine the overall mission/task risk level. Circle the appropriate level in block 9 of the worksheet.
5. Based on the risk level you circle in block 9, enter the risk approval authority information in block 10. If you are the authority, decide whether or not to accept the level of risk. If the risk level exceeds your authority stop here for this exercise (normally you would forward it through the chain of command to the appropriate approval authority for acceptance).
6. Be prepared to discuss your controls and decision.

ENABLING LEARNING OBJECTIVE:

ACTION: Discuss how to implement, supervise, and evaluate the effectiveness of controls.

CONDITION: in a garrison or tactical environment,

STANDARD: in accordance with Small Unit Risk Management Booklet.

Learning Activity 7(ELO 7)

7. Step four: Implement Controls - Put controls in place that eliminate the hazards or reduce their risk.

Controls are executed by the individuals involved in the task/mission and should address who will do what, by when. Incorporate controls into operations and communicate them down to the lowest level by way of:

- a. Standing Operating Procedures (SOP'S).
- b. Written and verbal orders.
- c. Mission or safety briefings and back-briefs.
- d. Training or rehearsals - "Train as you Fight".
- e. New equipment.

Perform this step during steps 4 through 7 of Troop Leading Procedures; initiate movement, reconnoiter, complete the plan, and issue the order.

8. Step five: Supervise and Evaluate - Enforce standards and controls. Evaluate the effectiveness of controls and adjust/update as necessary.

a. **Supervision** and responsibility go hand in hand. All soldiers are responsible for supervising themselves (self-discipline). What that means is that every soldier is responsible for performing to standard and executing controls. Also, every soldier is responsible for recognizing unsafe acts or conditions and, depending on the situation and time requirements, making on-the-spot corrections and/or bringing it to the attention of the chain of command.

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

b. Leaders and supervisors are also responsible for ensuring standards and controls are adhered to and enforced. Some ways to accomplish this are spot checks, inspections, continuous supervision, situation reports, etc.

c. All personnel involved in the implementation of controls should be part of the **evaluation** process. Individuals responsible for the implementation of controls should evaluate their effectiveness using feedback from the soldiers and adjust or update as necessary. Once the mission has been completed, ensure that an After Action Review (AAR) is conducted with your subordinates and superiors.

Accomplish this step during the 8th and final step of Troop Leading Procedures: Supervise and refine the plan.

PRACTICAL EXERCISE - Activity 4

INSTRUCTIONS: Use the scenario and the risk management worksheet from the previous exercise and the Small Unit Risk Management Booklet, to:

1. Determine how you are going to implement each control you selected.
2. Fill in block 11 of the worksheet.
3. Describe how each control will be supervised in block 12; for example , spot checks, inspections, direct supervision, etc.,.

Note: For the exercise do not fill in the evaluation column (Block 13). Normally this block would be filled in after conducting an AAR for the mission/task.

APPENDIX C

SAMPLE SOLUTION - PRACTICAL EXERCISE

PE SCENARIO

TASK: PERFORM TACTICAL ROADMARCH
ARTEP 7-8 MTP (7-3-1123), FM 7-8, FM 21-18

MISSION: 1st Plt, A Co conducts a dismounted tactical roadmarch 060700JunXX along RT Blue to occupy new company TAA Cobra.

SITUATION: It is day five of a company seven day FTX and the commander has given you, the platoon leader, a warning order 051200JunXX to conduct the roadmarch. The SP time for the roadmarch is 060700JunXX securing TAA Cobra NLT 061300JunXX. The remainder of the company will occupy TAA Cobra 061800JunXX. Enemy dismounted patrols (5-10 personnel) have been reported operating along RT Blue within the last twelve hours. Current location and strength of patrols is unknown.

H: ENEMY
R: TRAINING

CONDITIONS: TAA Cobra from your current location is approximately 15km. The terrain along RT Blue is uneven, small hills and heavily vegetated in some areas.

H: TERRAIN
R: TRAINING

The weather has been humid and hot. Temperatures have been reaching the low 90's during the day and the low 70's at night. No precipitation is forecasted for the next 48 hours.

H: WEATHER
R: TRAINING

The platoon is at 90% strength with only one team leader position not filled. The platoon has been resupplied with food, water, and ammunition since the last mission and has enough for each to carry a basic load.

FACTS: You have been assigned as platoon leader for the last six months. During this time you have participated in the battalion EIB, company lane training and one other company three day FTX. Based on your experience you know that:

- Platoon is acclimated to roadmarch conditions. Twenty personnel trained for EIB last month with four awarded EIB.
- Three personnel have had previous "heat related injuries".
- One squad only has one combat lifesaver. The TACSOP requires that each squad is assigned two combat lifesaver qualified personnel.
- Received three new personnel to platoon prior to FTX. Rest of platoon have been has been together for the last four months.

H: MISSION
R: SUPPORT

US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS

JAN 97

Resources: ARTEP 7-8 MTP, FM 7-8, FM 21-18, Small Unit Risk Management Booklet and Unit SOP.

METT-T ANALYSIS

MISSION: Perform tactical roadmarch.

ENEMY: Dismounted patrols (5-10 personnel). Unknown location .

TERRAIN: Small hills, uneven and heavily vegetated in some areas.

TROOPS: Acclimated to roadmarch conditions; three previous heat related injuries.
Short of combat lifesavers within the platoon.

TIME: Enough time available to accomplish mission.

APPENDIX D

RISK MANAGEMENT FOR LEADERS QUIZ

1. In past wars, most Army casualties were due to:
 - a. Accidents, including fratricide.
 - b. Enemy action.

2. Which of the following statements are true?
 - a. Force protection is an element of combat power.
 - b. Safety is a component of force protection.
 - c. Force protection is an objective of Force XXI.
 - d. Risk management is the Army's principal risk reduction process to protect the force.
 - e. A, C and D.
 - f. All of the above.

3. Which of the following can cause and/or contribute to accidents?
 - a. Human error
 - b. Materiel failure/malfunction
 - c. Environmental factors.
 - d. All of the above

4. What percent of Army accidents are caused by human error?
 - a. 80%.
 - b. 50%.
 - c. 15%.
 - d. 5%.

5. In a human error accident, the individual who made the mistake is at fault if he/she:
 - a. Knew and was trained to standard but elected not to follow the standard.
 - b. Had a leader that failed to enforce the standard.
 - c. Was performing a task for which the procedures were poorly written and not not practical.

6. Which of the following statements about the sources of accident cause factors are true?

- a. 48% are individual failure. That means the soldier knew and was trained to the standard but elected not to follow the standard.
- b. 18% are support failure. That means an insufficient number/type of personnel or equipment.
- c. Both A and B.

7. Using the accident scenario presented below, identify the source/root cause of the human error.

After being warned that the turret was about to be traversed, the M1A1 tank driver removed his CVC helmet and exited the vehicle with the engine operating. The driver was killed when the turret was moved. The driver elected not to follow procedures because he was in a hurry to clean the vision blocks.

- a. Individual.
- b. Leader.
- c. Training.
- d. Standard.
- e. Support.

8. Using the accident scenario presented below, identify the source/root cause of the human error.

Driver of M561 truck attempted to execute a right turn while going too fast and lost control of the truck which overturned. Senior occupant allowed driver to exceed posted speed limit.

- a. Individual.
- b. Leader.
- c. Training.
- d. Standards.
- e. Support.

9. Using the accident scenario presented below, identify the source/root cause of the human error.

Soldier was installing hydrovac unit on M35A2, 2 1/2 ton truck but had not been taught how to properly secure truck before beginning maintenance. Another soldier started the truck and it rolled over the soldier installing the hydrovac.

- a. Individual.
- b. Leader.
- c. Training.
- d. Standards.
- e. Support.

10. Using the accident scenario presented below, identify the source/root cause of the human error.

Soldier injured his back while unloading tents by himself. Soldier did not ask for help with this task because safe lifting procedures had not been established in the unit SOP.

- a. Individual.
- b. Leader.
- c. Training.
- d. Standards.
- e. Support.

11. Using the accident scenario presented below, identify the source/root cause of the human error.

Practice claymore mine exploded during training and injured six soldiers because live rather than inert blasting caps were used. Live blasting cap assemblies were issued by supply with the practice mine.

- a. Individual.
- b. Leader.
- c. Training.
- d. Standards.
- e. Support.

12. Risk management is the six step process of identifying and controlling hazards to protect the force?

- a. True.
- b. False.

13. Risk Management is applicable to:
- a. Tactical missions.
 - b. Administrative tasks.
 - c. Field training environments.
 - d. Office environments.
 - e. All of the above.
14. All leaders have the responsibility to:
- a. Identify hazards.
 - b. Take measures to reduce or eliminate hazards.
 - c. Accept risk even though the potential cost (personnel and equipment losses) is greater than the benefit (mission success).
 - d. A and B.
 - e. All of the above.
15. Which of the following are hazards?
- a. Cold weather and soldiers without cold weather clothing.
 - b. Frostbite.
 - c. Hot weather and water intake schedule not enforced.
 - d. Heatstroke.
 - e. A and C.
 - f. All of the above.
16. Which one of the following hazards is not correctly classified to the appropriate METT-T condition?
- a. Enemy mechanized recon platoon - enemy.
 - b. Narrow congested road - terrain.
 - c. Fog - weather.
 - d. Fatigued soldiers - troops.
 - e. Insufficient number of soldiers - equipment.
 - f. Insufficient time to plan mission - time.
17. Hazards should be identified during which steps of troop leading procedures?
- a. Receive mission, issue warning order and make tentative plan.
 - b. Initiate movement and reconnoiter.
 - c. Complete the plan and issue the order.

D-4

18. The risk of a hazard is determined by estimating:
- a. The probability/chance that the hazard will happen.
 - b. The severity of injury to personnel, damage to property or impact on the mission if the hazard results in an accident.
 - c. Both A and B.
19. The levels of risk are low, moderate and high.
- a. True.
 - b. False.
20. The risk level of hazards should be determined during which steps of troop leading procedures?
- a. Complete the plan.
 - b. Issue the warning order.
 - c. Make a tentative plan.
 - d. Reconnoiter.
21. Controls are actions taken to:
- a. Eliminate hazards.
 - b. Reduce the risks of hazards.
 - c. Both A and B.
22. After receiving the mission, develop only those controls that can be implemented during mission planning, preparation and execution.
- a. True.
 - b. False.
23. For the hazard shown, which one of the following controls is not appropriate?
- a. Enemy has electronic jamming equipment - brief soldiers on enemy capability.
 - b. Unimproved roads with ruts and washouts - select and brief route that minimizes unsafe conditions.
 - c. Cold weather - provide warming tents.
 - d. Unlicensed driver - brief driver on road hazards.
 - e. Vehicles in poor condition - Ensure proper PMCS.
 - f. Inadequate time for mission planning and preparation - delay mission start.

D-5

24. Controls should be developed during which steps of troop leading procedures?
- a. Expand selected COA into a tentative plan.
 - b. Compare courses of action.
 - c. Make a decision.
 - d. All of the above.
25. The residual risk of a hazard is determined by estimating:
- a. The probability/chance that the hazard will happen after controls are implemented.
 - b. The severity of combat power losses if the hazard results in an accident after controls are implemented.
 - c. Both A and B.
26. The levels of residual risk are low, moderate, high and extremely high.
- a. True.
 - b. False.
27. A hazards residual risk level should never be higher than it's initial risk level.
- a. True.
 - b. False.
28. Controls should be identified and selected until the residual risk of a hazard:
- a. Is at an acceptable level.
 - b. Cannot be practically reduced further.
 - c. A and B.
29. The residual risk level of hazards should be determined during which steps of troop leading procedures?
- a. Issue the warning order.
 - b. Receive the mission.
 - c. Reconnoiter.
 - d. Make a tentative plan.

30. The overall risk level for the mission/task is determined by procedures in the unit SOP or the hazard with the highest level of residual risk.

- a. True
- b. False

31. The levels of overall mission/task risk are low, moderate, high and extremely high?

- a. True.
- b. False.

32. The commander, leader, or individual responsible for executing the mission or task is always authorized to accept low, moderate or high risk levels. Only extremely high risk decisions must be elevated to the next level in the chain of command.

- a. True
- b. False

33. The decision to accept or not accept mission/task risk should be made during which steps of troop leading procedures:

- a. Make a tentative plan.
- b. Initiate movement
- c. Complete the plan.
- d. Supervise and refine the plan.

34. Which of the following is not a method of implementing controls?

- a. Written instructions to include FRAGO and OPORD.
- b. Briefing/verbal instructions.
- c. SOPs.
- d. Direct supervision.
- e. Training.

35. Controls should be implemented during which steps of troop leading procedures?

- a. Initiate movement.
- b. Make a tentative plan.
- c. Issue the order.
- d. A and C.

36. Which of the following is not a method of supervising controls to ensure they are properly implemented?

- a. Continuous supervision on site.
- b. Spot checks.
- c. Situation reports.
- d. Practice.
- e. Buddy system.
- f. Soldier self discipline.

37. The effectiveness of a control is determined by whether or not the control:

- a. Eliminated the targeted hazard.
- b. Reduced the chance of the targeted hazard from happening.
- c. Reduced the potential severity of personnel injury, property damage or mission impact of any accident the targeted hazard may have caused or did cause.
- d. A and C.
- e. A, B and C.

38. The effectiveness of controls should be determined during which steps of troop leading procedures?

- a. Complete the plan.
- b. Supervise and refine the plan.
- c. Initiate movement.
- d. Issue the order.

39. Which of the following is not an appropriate action to take for each control determined to be ineffective?

- a. Change the control.
- b. Develop a different control.
- c. Change how the control is implemented.
- d. Change how the control is supervised.
- e. Change how the control's effectiveness is evaluated.

40. One of the Army's goals is to make risk management a routine part of planning and executing operational missions.

- a. True.
- b. False.

LAST, FIRST

UNIT:

RISK MANAGEMENT FOR LEADERS

QUIZ

ANSWER KEY

- | | | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|-----|---|---|---|---|---|---|--|
| 1. | A | B | | | | | 21. | A | B | C | | | | |
| 2. | A | B | C | D | E | F | 22. | A | B | | | | | |
| 3. | A | B | C | D | | | 23. | A | B | C | D | E | F | |
| 4. | A | B | C | D | | | 24. | A | B | C | D | | | |
| 5. | A | B | C | | | | 25. | A | B | C | | | | |
| 6. | A | B | C | | | | 26. | A | B | | | | | |
| 7. | A | B | C | D | E | | 27. | A | B | | | | | |
| 8. | A | B | C | D | E | | 28. | A | B | C | | | | |
| 9. | A | B | C | D | E | | 29. | A | B | C | D | | | |
| 10. | A | B | C | D | E | | 30. | A | B | | | | | |
| 11. | A | B | C | D | E | | 31. | A | B | | | | | |
| 12. | A | B | | | | | 32. | A | B | | | | | |
| 13. | A | B | C | D | E | | 33. | A | B | C | D | | | |
| 14. | A | B | C | D | E | | 34. | A | B | C | D | | | |
| 15. | A | B | C | D | E | F | 35. | A | B | C | D | E | F | |
| 16. | A | B | C | D | E | F | 36. | A | B | C | D | E | | |
| 17. | A | B | C | | | | 37. | A | B | C | D | E | | |
| 18. | A | B | C | | | | 38. | A | B | C | D | E | | |
| 19. | A | B | | | | | 39. | A | B | C | D | E | | |
| 20. | A | B | C | D | | | 40. | A | B | | | | | |

RISK MANAGEMENT FOR LEADERS

QUIZ

ANSWER KEY

- | | | | | | | | | | | | | |
|-----|---|---|---|---|---|---|-----|---|---|---|---|---|
| 1. | ■ | B | | | | ■ | 21. | A | B | ■ | | |
| 2. | A | B | C | D | E | ■ | 22. | ■ | B | ■ | | |
| 3. | A | B | C | ■ | | | 23. | A | B | C | ■ | E |
| 4. | ■ | B | C | D | | | 24. | A | B | C | ■ | F |
| 5. | ■ | B | C | | | | 25. | A | B | ■ | | |
| 6. | ■ | B | C | | | | 26. | ■ | B | | | |
| 7. | ■ | B | C | D | E | | 27. | ■ | B | | | |
| 8. | A | ■ | C | D | E | | 28. | A | B | ■ | | |
| 9. | A | B | ■ | D | E | | 29. | A | B | C | ■ | |
| 10. | A | B | C | ■ | E | | 30. | ■ | B | | | |
| 11. | A | B | C | D | ■ | | 31. | ■ | B | | | |
| 12. | A | ■ | | | | | 32. | A | ■ | | | |
| 13. | A | B | C | D | ■ | | 33. | ■ | B | C | D | |
| 14. | A | B | C | ■ | E | | 34. | A | B | C | ■ | |
| 15. | A | B | C | D | ■ | F | 35. | A | B | C | ■ | E |
| 16. | A | B | C | D | ■ | F | 36. | A | B | C | ■ | F |
| 17. | ■ | B | C | | | | 37. | A | B | C | D | |
| 18. | A | B | ■ | | | | 38. | A | ■ | C | D | |
| 19. | A | ■ | | | | | 39. | A | B | C | ■ | |
| 20. | A | B | ■ | D | | | 40. | ■ | B | | | |

APPENDIX E

EVALUATION EXERCISE

INSTRUCTIONS: Select one of the scenarios enclosed in this appendix. Using the scenario, a sheet of paper, the Small Unit Risk Management Booklet, and a risk management worksheet with instructions, perform the following:

1. Identify at least four hazards associated with the METT-T conditions of the scenario.
2. Complete blocks 5, 6, 7, 8, 11, and 12 for at least four hazards.
3. Identify the overall mission/task risk level and correctly identify it in block 9.
4. Identify the risk decision authority and correctly identify that individual in block 10.
5. You will have 30 minutes to complete this exercise.

PAGE 1 of

E-2

PAGE ____ of ____

E-3

US ARMY SAFETY CENTER RISK MANAGEMENT FOR LEADERS

JAN 97

BLOCK

1. Mission/Task - Describe the mission/task to be executed For example: Platoon Attack by Fire.
2. Mission/task date time group (DTG) - Enter DTG when the mission/task is planned to begin and when it is planned to be completed.
3. Date prepared - Enter day/month/year the worksheet was prepared.
4. Prepared by - Enter the rank, last name and duty position of the person who prepared the worksheet.
5. Identify hazards - Identify hazards by reviewing METT-T facts for this mission/task. That is, about mission, enemy, terrain, weather, troops, equipment and time. Sources of METT-T facts and historical hazards include: mission/task instructions, recon, experience of leaders and troops, unit SOPs, unit accident history, Small Unit Risk Management Booklet and NTC Force Protection Study Guide. Objective is to identify hazards that are most likely to result in accidental injury, damage or mission degradation. Enter hazards in block 5.
6. Assess hazards - Determine the risk of each hazard by applying the risk assessment matrix included at the end of these instructions and on page 13 of the Small Unit Risk Management Booklet. For each hazard, enter in block 6 it's risk level. That is, enter L (Low), M (Moderate), H (High), or E (Extremely High).
7. Develop controls - For each hazard, develop one or more controls to eliminate or reduce the risk. As needed, specify the who, what, where, when and how of each control. Sources for controls include those listed above for block 5. Enter the controls in block 7.
8. Determine residual risk - For each hazard, use the risk assessment matrix included at the end of these instructions and on page 13 of the Small Unit Risk Management Booklet to determine the level or risk remaining after the controls are implemented. Enter the level of residual risk for each hazard in block 8.
9. Determine mission/task overall risk. Use procedures outlined in the Unit SOP. If the Unit SOP does not have procedures to determine overall mission/task risk, this risk level is the same as the hazard with the highest residual risk. Circle risk level in block 9 at the bottom of the worksheet.
10. Make risk decision - Decide to accept or not accept the level of residual risk for this mission/task. Use the unit SOP to determine who is authorized to accept what level of risk. If the SOP does not give this guidance, use the procedures on page 14 of the Small Unit Risk Management Booklet. In block 10, enter the rank, name, position of the appropriate risk decision authority for the risk level circled in block 9.
11. Implement controls - For each control, enter in block 11 how it will be put into effect and/or communicated to the personnel who will make it happen. For example; verbal order, SOP's, OPORD, rehearsals.
12. Supervise - In block 12, enter how each control will be monitored to ensure it is implemented. For example; direct supervision, continuous supervision, spot checks, situation reports, inspections, buddy system, or soldier self-discipline.
13. Evaluate - After the mission/task is completed, determine the effectiveness of each control reducing the risk of the targeted hazard. In block 13, enter "yes" if the control was effective. Enter "no", if the control was not effective. For each control that was not effective, determine why and what to do the next time this hazard is identified. For example; change the control, develop a different control or change how the control will be implemented or supervised.

APPENDIX E

SCENARIO 1 (INFANTRY)

TASK: EXECUTE ATTACK
ARTEP 7-8-MTP (7-3/4-1100)
FM 7-8, FM 7-7J

MISSION: TM Warrior conducts an attack NLT 050600MaXX to seize and control an unimproved airfield located vicinity NK 568031.

SITUATION: Intelligence indicates the airfield is defended by a dug-in enemy force estimated to be a squad-sized element. Fortifications are individual fighting positions with sand bag emplacements for crew served machine guns and anti-armor weapons. The compound is surrounded by layered concertina wire with possible anti-vehicular and personnel minefields in front of the wire.

CONDITION: You are a mechanized infantry platoon leader with first platoon Co. A, 2-5 In Bn. Your platoon is the lead element in the attack to seize control of the airfield (approximately 8 KM from your current position). 3rd platoon (tank) will provide far security and 2nd platoon (mech) will be in reserve. The airfield will be used by the 1st Brigade Combat Team (BCT) as logistical support for future operations. You received a warning order from the commander 021500MarXX.

1st BCT deployed to the Republic of Mojave 271200FebXX. Since your arrival the temperature has been moderate; 50s in the day and 30s at night. The current weather update indicates a front moving into the area within the next two days which may produce precipitation, possibly snow or freezing rain.

The airfield lies at the top of a plateau. The SW side of the compound is protected by steep cliffs and a deep ravine that is impassable to vehicles. The terrain between your current position and the airfield is open and maneuverable, but provides little cover or concealment.

FACTS: You have been assigned as platoon leader for the last eight months. Assessment of your platoon and mission:

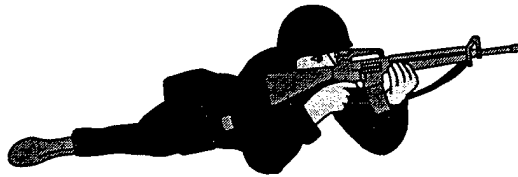
- Participated in company lane training-received "P" in the area of friendly vs threat identification.
- Completed dismount gunnery, Bradley Tables VI-XII and CALFEX.
- The company/team TACSOP was updated one month prior to your deployment and the platoon has not had time to execute to standard some of the tasks.

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

- The experience level of your soldiers is varied: 15% are Desert Shield/Storm veterans, 25% are second term soldiers, and the remaining (60%) are young first term soldiers with less than 24 months in the service.
- Your platoon is well rested and this will be your first mission since deployment.

RESOURCES: ARTEP 7-8-MTP; FM 7-8; FM 7-7J; Small Unit Risk Management Booklet.



APPENDIX E

SCENARIO 2 (ARMOR)

TASK: Perform an Attack by Fire
17-237-10-MTP
(17-3-0219)

MISSION: 2nd Platoon B Company 2nd Battalion 66th Armor on 281800MARXX will conduct a Movement to Contact from LD/LC along Axis Blue to occupy Attack Position Eagle (PK88341650). On order, deploy the platoon into an overwatch position and be prepared to attack by fire.

SITUATION: Enemy forces have crossed PL Tiger and have taken up hasty defensive positions in your sector (PK87341600). It appears that the enemy is preparing to conduct a deliberate attack against Task Force XXI. The enemy forces consist of two Heavy Tank Platoons supported by one Chemical Attack Company, with a third Heavy Tank Platoon in reserve.

The enemy is at 100% strength with high morale and they have been known to use chemical weapons. Aerial reconnaissance reports construction of a tank ditch and wire obstacles on Axis Blue vicinity (PK88042010). Enemy tanks were observed in the vicinity of the obstacles.

The enemy Tank Platoons are equipped with T80's, BMP2 w/sagger missiles and BTR 80's. The Chemical Attack Co. is capable of delivering chemical agents to an area 2km wide and 5km deep from their hide position located up to 2km away .

CONDITION: Your Battalion is operating at the National Training Center (NTC) as part of TF XXI. The Battalion deployed from Ft. Hood on 20 Feb and has been on station for five weeks. During the last three days, you have been engaged in 24 hour continuous operations with daily OPFOR engagements. The time is now 271500MARXX. Your platoon has been moving since 270500MARXX using bounding over-watch.

Despite the excellent physical condition of your soldiers, the intense training and effects of desert life have taken their toll on your soldiers. They have been constantly out of uniform and complaining about having to perform PMCS on their vehicles.

At approximately 271400MARXX the Commander directs you to prepare to deploy your platoon in the over-watch position and, on order, to attack the company objective by fire. Your over-watch position is approximately 10.5 km away. Your fuel and ammunition status are both 90% after resupply. Your commander informs you that the company must be on their objective (approximately 12 Km away) NLT 281800MARXX.

Friendly forces: 1st and 3rd Platoon, 2nd Battalion 66th Armor will be maneuvering towards the enemy position, while 2nd Platoon B Company provides over-watch. Friendly artillery fire mixed with smoke will be used to suppress the enemy's position

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

and to conceal the movement of 1st and 3rd Platoon. The commander's intent is to destroy the enemy with direct and indirect fire before they can launch an attack, by fixing and flanking the enemy's position.

Light condition: Sunrise is at 0600 hours and Sunset is at 1800 hours. Weather conditions are dry with mild temperatures that are expected to climb into the 100's.

The terrain is flat and rolling with sandy bottom, small hills, steep inclines marked by large rock outcroppings and deep ravines.

FACTS: You have been the Platoon Leader of 2nd Platoon, B Company, 2nd Battalion 66th Armor, for the past four months. You have participated in two field training exercises (FTX) in preparation for NTC rotation. During this time you have observed your platoon and have assessed their capabilities. Based on this you know:

- The TACSOP does not provide for work/rest plan during continuous operations.
- 30% of your personnel did not participate in any NTC train-up. They were transferred to your Platoon between train-up and deployment .
- Your platoon has trained to conduct movement to contact operations, but never in a chemical environment .
- 50% of the MOPP suits issued to your platoon are not serviceable .
- Your platoon does not have the equipment needed to conduct a breaching operation or to clear an obstacle.
- At some point during the mission, you will need to crosslevel your platoon's ammunition. Unreliable soldier discipline and leaders not enforcing standards may lead to mishandled ammo (excitement and haste under enemy threat).

RESOURCES: ARTEP 17-237-10-MTP; BCT, 2AD, TACSOP (Cards 902-905); Small Unit Risk Management Booklet.

APPENDIX E

SCENARIO 3 (AVIATION)

TASK: RELOCATE THE FARP
ARTEP 1-100-30-MTP
(01-2-7727)

MISSION: The POL Platoon, HQ CO, 123d ATK BN, will conduct FARP aerial relocation operations in support of a night, AH-64 deep attack mission using K Troop 2/7 CAV aircraft. The FARP will relocate using two of A CO, 123d ATK BN's UH-60's from (NK 560029) and have FARP operational NLT 040230NovXX at (NK 628031).

SITUATION: The peoples army of Muldavia has stepped up operational tempo in your area. Since the Muldavian's last forward advance, enemy artillery has become a greater threat to the aviation assets of the 123d ATK BN. Enemy strength continues to increase with the insurgence of newly conscripted personnel. Friendly resistance patrols have discovered newly constructed enemy positions which appear to be designed for the employment of ADA or SAM's. If construction of the sites is allowed to continue to completion and operational status is obtained, friendly aviation operations will be in serious jeopardy.

CONDITION: You are the HQ CO POL Platoon Leader and have been at NTC for the past two weeks. You have been conducting tactical operations for the past three days. It is 032100NOVXX. You have just received orders to relocate the FARP and have it operational at the new location (NK 598031) no later than 040230NOVXX.

You have two UH-60's on site to move your equipment and personnel to your jump FARP (forward) location. You have four 500 gallon fuel Blivets and will be operating four refueling points at one time using two FARE systems. Your platoon is seriously over extended with other commitments to the battalion. You only have a total of 8 personnel to conduct this mission. 20% of those personnel have recently transferred in from northern climates, have had minimal training with your unit, and have never conducted FARP operations with AH-64's..

The weather has been dry and hot, with no forecasted precipitation. The temperature is averaging 93 degrees Fahrenheit during the day and 68 degrees Fahrenheit at night. There will be moderate illumination throughout the operation.

FACTS: You have been the POL Platoon Leader for the past 4 months. During this time you have planned and participated in two field training exercises (FTX) in preparation for this NTC rotation. The company safety officer has conducted a force

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

protection (safety) assessment of all personnel within the company. Based on that assessment you know:

- Results from the force protection (safety) assessment identified 10% of the soldiers in your platoon were in the high or extremely high risk category for accidents (below standards due to lack of self discipline).
- Your platoon has supported numerous FARP operations and POL support missions over the past year, but only two night operations using NVDs during that time.
- The new FARP location has been reported to have sparse vegetation, and scrub brush. Soil conditions are conducive for dust/brownout conditions. The S-3 has completed an aerial recon of the location, but no one from your platoon, including yourself, is familiar with this site.

APPENDIX E

SCENARIO 4 (AIR DEFENSE)

TASK: PROVIDE AIR DEFENSE FOR A CONVOY
ARTEP 44-117-21-MTP
(44-3-7002) (FM 44-31)

MISSION: Provide air defense for 2nd Brigade's tactical road march from Irwin City to the tactical assembly area, vicinity NK356215, NLT 010300MarXX.

SITUATION: The likely avenue of approach of enemy aircraft is from the north. Intelligence indicates there are enemy snipers in the area of operations. OPFOR aircraft have been observed in the immediate area of operation.

CONDITION: You are an Avenger Platoon Leader in A Battery 4th BN 44th ADA, and have been deployed with your battery at the National Training Center for two weeks. It is currently 201300FebXX. Your battery has been given the mission to provide air defense for 2nd Brigade's tactical road march, on 010300MarXX. The first serial will SP at 0300 hrs, with the subsequent serial departing at 0315. The convoy speed limit is 25 MPH with a catch up speed of 30 MPH. All vehicles will be on line two hours prior to roll out and will have TC's. Night vision devices will be used during this move. Your platoon is at 85% personnel strength, 50% of which are new to the unit and have never deployed to a desert environment.

Map recons indicate that you will be traveling on unimproved roads with some steep slopes of more than 22 degrees. Soil conditions are firm and rocky with large subsurface rock formations. Terrain limitations for overlapping fires should be no less than 4,000 meters and for mutual support not less than 3,000 meters as the terrain permits.

Temperatures for March at NTC range from a high's in the 50's to low's in the 20's with strong winds. Precipitation during March averages approximately 2". The moon will provide only 5% illumination.

FACTS: You have been a platoon leader for the last 12 months. During this time you have observed your platoon's training and operations. You have conducted a safety assessment of the platoon; based on this, you know:

- Recently your unit participated in a battalion level FTX. Your unit was assessed as a (P) in the area of supporting battery fires (firing in sector while on the move).
- Night vision refresher training was conducted last month.

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

- During a pervious exercise you had to continuously correct your soldiers on proper vehicle intervals when firing.
- TACSOP states there must be good visibility to identify aircraft, but does not address procedures for limited visibility.
- The 1st Section Leader is a very aggressive leader and pushes his soldiers to the limit. You noted during the last FTX, his soldiers sometimes only had 4 hours of rest in a 24 hour period and appeared extremely fatigued.
- Your unit has been acclimatized and is proficient in operating in cold weather conditions. Annual cold weather training has been conducted.

APPENDIX E

SCENARIO 5 (FIELD ARTILLERY)

TASK: Deliver Field Artillery Fires
ARTEP 6-511-MTP
(06-1-02-3042)

MISSION: Provide direct support field artillery fires in support of 3d Brigade's movement to contact NLT 240400FEBXX, to locate and destroy the Tawakana Division of the Iraqi Republican Guard.

SITUATION: It is now 211200FEBXX. Your battery has been deployed to the Southwest Asian theater since 29 December. The Tawakana Division has been preparing and improving their defensive positions, incorporating tank ditches, minefields and other obstacle belts, since late September. After almost four weeks of air strikes, intelligence estimates their combat power at 95% with full operational capability to employ persistent and non-persistent chemical agents.

CONDITIONS: Your battery is at 102% personnel strength. 95% of these soldiers have never participated in any type of combat operation. In November you received the new M109A6 (Paladin). Your first actual training exercise (firing) with this system was on 3 January. Your crews are well trained in crew drills, but, you rate your section chiefs as a (P) partially trained because of their lack of training on the new electronic equipment which came with the M109A6. Your soldiers are acclimated to the cool weather in the desert. The predicted weather for 24 February is severe wind (30 + knots) causing sand storms with visibility less than 50 feet. No precipitation is predicted.

FACTS: You have been the battery commander for the past 13 months. Your soldiers have fired over 3,000 rounds safely in the M109A3, but, have only fired 250 rounds from the M109A6. Based on your training and experience, you know:

- The Tawakana Division has excellent counter-battery acquisition systems and is well trained in processing counter-fire missions.
- The dust and cool weather has caused numerous failures of the electronic devices on the M109A6 and in your fire direction center (FDC).

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

- During your last ARTEP, your battery FDC was rated a (P) partially trained in manual fire direction procedures.
- Your battery has not conducted any collective training with the 3d Brigade maneuver elements on breaching/reducing obstacles. You have no organic engineer assets with your battalion.
- From previous experience at NTC and CMTC, you know there is little time for sleep/rest in a movement to contact operation. There is a distinct possibility your unit will be in MOPP 4 for a long period of time if the enemy sticks to their doctrine of employment of chemical munitions.

RESOURCES: FM 6-50; ARTEP 6-115-MTP

APPENDIX E

SCENARIO 6 (ENGINEER)

TASK: CONDUCT BREACHING OPERATIONS
(05-2-0114)
(FM 5-34, FM 20-32, FM 5-101, FM 101-5-1).

MISSION: A Co / 22nd ENGINEER BATTALION will conduct breaching operations in the vicinity of OBJ STEEL, in the Republic of Mojave, on or about 112300NOVXX in order to maintain the momentum of TF Whiskey's attack.

SITUATION: The obstacle is a surface laid antitank minefield. It has three rows that are 200 meters long and 40 meters apart. The front of the minefield is marked by a single strand of barbwire along the length of the front row. There is a Motorized Rifle Platoon overwatching the obstacle. Intelligence believes that they also have the support of a artillery battery.

CONDITION: You are the Safety Officer for A Co / 22nd ENG BN. It is currently 010900NOVXX. Personnel and equipment will depart for OBJ Steel on or about 111900NOVXX on TF vehicles. At the dismount point your unit will link-up with the designated TF breaching force and move ON FOOT, tactically to the last covered and concealed location before the obstacle. Breaching operations will begin on order of the TF Commander.

The predicted temperature and weather for 11 NOV XX is a high of 72 degrees, a low of 44 degrees, and a 20% chance of rain. The terrain is rocky with steep ravines and sandy desert areas. This time of year it is usually dusty and dry.

FACTS: You have been the Safety Officer for the last eight months. During this time, you have observed all unit training and operations. A safety assessment of the unit has been conducted. Based on this you know:

- The unit is at 95% strength. The commander rates the unit a "P" due to the fact that 40% of the soldiers arrived at the unit after the last train up.

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

- The unit's is trained on low visibility operations and on the use of NVG's but there are only two pairs of NVG's per platoon that are serviceable. Illumination will be at 40%.
- The soldiers will be performing missions under continuous operations. The OPORD does not cover rest / sleep plans.

RESOURCES: ARTEP 5-025-31-MTP; FM 5-34; FM 20-32; FM 5-101; Small Unit Risk Management Booklet.

APPENDIX E

SCENARIO 7 (TRANSPORTATION)

TASK: Plan Occupation of New Area of Operation
ARTEP 55-716-30-MTP
(55-2-1007)

MISSION: 60th TRANS CO will begin occupation of the forward support base (PT 564321), and be operational NLT 071700NOVXX.

SITUATION: Intelligence indicates the enemy has been attacking logistical units with aircraft, artillery, and ground forces (possibly a platoon size element), in an attempt to disrupt logistical support and main support routes. Additionally, reports indicate the enemy is conducting nuclear, biological, and chemical (NBC) operations to further disrupt/restrict units from accomplishing their missions. It has been reported also that there are mine fields one kilometer north of the new location (NK456432).

CONDITION: You are the Commander of 60th Transportation Co. which has been deployed to CMTC, Hohenfels, Ge. in support of the 2nd Cav Div for two weeks. Your company missions consist of ration pick-up and twenty four hour tank recovery operations. You have sixty HETs, ten M939 series 5-Ton vehicles, and six HMMWVs in the unit. You have just received warning orders to deploy to a new area of operations (NK456432) with an SP time of 070400NOVXX. It is now 040600NOVXX, and you are required to have your unit operational NLT 071700NOVXX. The division's contingency plan includes support from an engineer mine clearing team, three Black Hawks, and artillery support from the 75th FA Bde. Your unit is operating at ninety percent personnel strength. The weather has been cold and rainy with temperatures in the low twenties with heavy fog during early morning hours. Winds are forecasted to be northerly at thirty knots. The new operating area is thirty five kilometers from your current location. The terrain at the new area of operation is open and muddy and provides little or no cover or concealment.

FACTS: You have been the Company Commander for the past six months. During this time you have observed the units training and operations. A force protection safety assessment of the unit has been conducted. Based on this, you know:

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

- 20% of the soldiers in the unit are new and 40% have received no training on night operations in the last twelve months.
- Several days ago, one of your M939 5-Ton cargo vehicles overturned while returning from a commitment due to excessive speed for conditions. The driver and senior occupant were not wearing seatbelts, and had been briefed on the hazards associated with the M939 series 5-Ton.
- Two soldiers in the unit have already sustained cold weather injuries. Your unit has not conducted annual cold weather training.
- During the last ARTEP, your unit was evaluated untrained (U) on crossing radiological and chemically contaminated areas.

RESOURCES: ARTEP 55-716-30 MTP: ARTEP 55-28 ,FM 21-305 TC 21-305-3,4&5.

APPENDIX E

SCENARIO 8 (SIGNAL)

TASK: INSTALL LOS RADIO TERMINAL AN/TRC 190(V)
ARTEP 11-067-30-MTP

MISSION: Deploy one Extension Switch Section from your platoon to establish and provide communications for the Brigade Jump CP.

SITUATION: The time is 070900Mar XX. There has been enemy activity daily. Last night at 0215 your site was probed by a squad sized enemy patrol. The need for a higher level of security disrupted your sleep plan and resulted in sleep deprivation for your entire platoon. Enemy activity has been increasing in frequency and intensity over the last 72 hours. Indications are that the enemy is operating squad sized dismounted patrols in an attempt to disrupt communications and interrupt supply lines.

CONDITION: You are a Node Center Platoon Leader with the 124 SIG Bn. Your platoon deployed from Ft Hood to the National Training Center (NTC) on 150900FebXX in support of 1st BDE. You have been in the area of operations (AO) for two weeks. You have been given the mission to provide communications to the BDE Jump Command Post. BDE has directed that your commo package will deploy with the advance party at 080530MarXX and communications will be hot NLT 080900MarXX. Since your platoon's arrival two weeks ago, you have taken the appropriate steps to acclimate your soldiers. You have conducted training on cross country driving skills, MOS specific tasks and basic soldier skills. You have been operating for the past 7 days in a tactical environment with 24 hour a day continuous operations. Due to personnel turn over rate, you have to consider sending two new soldiers with the jump team. Both soldiers arrived from the 31D10 course at Ft Gordon, GA just one week prior to your deployment. The jump site is approximately 20 Km from your current location. It is on high ground that is generally uneven with a 20 degree slope. The soil is firm and rocky with suspected large rock formations in the subsurface. The route in will be along an unimproved road with deep ruts and numerous washouts. The weather forecast is clear

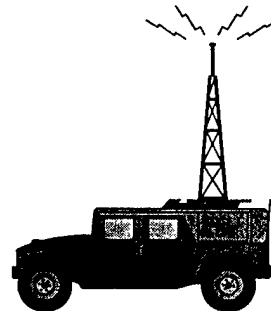
**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

with temperatures in the low40s to the upper30s with a 15-20 mph NW wind, with blowing sand and dust.

FACTS: You have been the Node Center Platoon Leader for the past twelve months. During this time you have participated in company level training exercises. Based on your experience , you know;

- This is the first FTX for the new soldiers in your platoon.
- 50% of your platoon (including yourself) has never been to NTC.
- Your platoon is at 85% strength.
- The platoons operational readiness (OR) rate is 95%.
- In the past, soldiers have not taken the appropriate gear with them on a mission.
- Shift schedules have not been established.



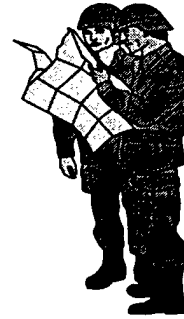
**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

**APPENDIX F
SOLUTION
SCENARIO 1 (INFANTRY)**



TASK: EXECUTE ATTACK
ARTEP 7-8-MTP (7-3/4-1100)
FM 7-8, FM 7-7J

MISSION: TM Warrior conducts an attack NLT 050600MaXX to seize and control an unimproved airfield located vicinity NK 568031.

SITUATION: Intelligence indicates the airfield is defended by a dug-in enemy force estimated to be a squad-sized element. Fortifications are individual fighting positions with sand bag emplacements for crew served machine guns and anti-armor weapons. The compound is surrounded by layered concertina wire with possible anti-vehicular and personnel minefields in front of the wire.

H: ENEMY
R: SUPPORT

CONDITION: You are a mechanized infantry platoon leader with first platoon Co. A, 2-5 In Bn. Your platoon is the lead element in the attack to seize control of the airfield (approximately 8 KM from your current position). 3rd platoon (tank) will provide far security and 2nd platoon (mech) will be in reserve. The airfield will be used by the 1st Brigade Combat Team (BCT) as logistical support for future operations. You received a warning order from the commander 021500MarXX.

1st BCT deployed to the Republic of Mojave 271200FebXX. Since your arrival the temperature has been moderate; 50s in the day and 30s at night. The current weather update indicates a front moving into the area within the next two days which may produce precipitation, possibly snow or freezing rain.

H: WEATHER
R: TRAINING

The airfield lies at the top of a plateau. The SW side of the compound is protected by steep cliffs and a deep ravine that is impassable to vehicles. The terrain between your current position and the airfield is open and maneuverable, but provides little cover or concealment.

H: TERRAIN
R: TRAINING

FACTS: You have been assigned as platoon leader for the last eight months. Assessment of your platoon and mission:

- Participated in company lane training-received "P" in the area of friendly vs threat identification.
- Completed dismount gunnery, Bradley Tables VI-XII and CALFEX.
- The company/team TACSOP was updated one month prior to your deployment and the platoon has not had time to execute to standard some of the tasks.

H: TROOPS
R: TRAINING

H: TROOPS
R: STANDARDS

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

- The experience level of your soldiers is varied: 15% are Desert Shield/Storm veterans, 25% are second term soldiers, and the remaining (60%) are young first term soldiers with less than 24 months in the service.

H: TROOPS R: TRAINING

- Your platoon is well rested and this will be your first mission since deployment.

RESOURCES: ARTEP 7-8-MTP; FM 7-8; FM 7-7J; Small Unit Risk Management Booklet.

METT-T ANALYSIS

MISSION: Conduct an attack on an enemy airfield.

ENEMY: Squad sized enemy force with direct (individual wpns/MG) and anti-armor weapons. Enemy is well dug in and has sand bag bunkers for crew served weapons. Compound is protected by concertina wire and minefields.

TERRAIN: Plateau affords easy access on all sides except the SW which is impassable to mechanized forces and highly difficult for dismounted personnel. The remaining approaches are open terrain, ideal for maneuver but provide no cover or concealment for dismounted troops. Forecast calls for rain, possibly freezing or snow. Inclement weather will degrade performance and increase the amount of time required to achieve objective.

TROOPS: Experience level is low, 60% are first term/enlistment soldiers with less than 2 years of service. Previous training assessments indicate the unit is partially trained in friendly vs. threat identification.

TIME: Adequate time is allowed to plan for a deliberate attack. Weather will have a major impact on the time required to execute the mission. Conducting a night attack increases the difficulty of the mission.



APPENDIX F
SOLUTION
SCENARIO 2 (ARMOR)

TASK: Perform an Attack by Fire
17-237-10-MTP
(17-3-0219)

MISSION: 2nd Platoon B Company 2nd Battalion 66th Armor on 281800MARXX will conduct a Movement to Contact from LD/LC along Axis Blue to occupy Attack Position Eagle (PK88341650). On order, deploy the platoon into an overwatch position and be prepared to attack by fire.

SITUATION: Enemy forces have crossed PL Tiger and have taken up hasty defensive positions in your sector (PK87341600). It appears that the enemy is preparing to conduct a deliberate attack against Task Force XXI. The enemy forces consist of two Heavy Tank Platoons supported by one Chemical Attack Company, with a third Heavy Tank Platoon in reserve. The enemy is at 100% strength with high morale and they have been known to use chemical weapons. Aerial reconnaissance reports construction of a tank ditch and wire obstacles on Axis Blue vicinity (PK88042010). Enemy tanks were observed in the vicinity of the obstacles.

H: ENEMY&TERRAIN
R: SUPPORT

The enemy Tank Platoons are equipped with T80's, BMP2 w/sagger missiles and BTR 80's. The Chemical Attack Co. is capable of delivering chemical agents to an area 2km wide and 5km deep from their hide position located up to 2km away .

H: ENEMY
&-ENVIRONMENT
R: TRAINING

CONDITION: Your Battalion is operating at the National Training Center (NTC) as part of TF XXI. The Battalion deployed from Ft. Hood on 20 Feb and has been on station for five weeks. During the last three days, you have been engaged in 24 hour continuous operations with daily OPFOR engagements. The time is now 271500MARXX. Your platoon has been moving since 270500MARXX using bounding over-watch.

Despite the excellent physical condition of your soldiers, the intense training and effects of desert life have taken their toll on your soldiers. They have been constantly out of uniform and complaining about having to perform PMCS on their vehicles.

H: TROOPS
R: INDIVIDUAL&
LEADER

At approximately 271400MARXX the Commander directs you to prepare to deploy your platoon in the over-watch position and, on order, to attack the company objective by fire. Your over-watch position is approximately 10.5 km away. Your fuel and ammunition status are both 90% after

US ARMY SAFETY CENTER RISK MANAGEMENT FOR LEADERS

JAN 97

resupply. Your commander informs you that the company must be on their objective (approximately 12 Km away) NLT 281800MARXX.

Friendly forces: 1st and 3rd Platoon, 2nd Battalion 66th Armor will be maneuvering towards the enemy position, while 2nd Platoon B Company provides over-watch. Friendly artillery fire mixed with smoke will be used to suppress the enemy's position and to conceal the movement of 1st and 3rd Platoon. The commander's intent is to destroy the enemy with direct and indirect fire before they can launch an attack, by fixing and flanking the enemy's position.

Light condition: Sunrise is at 0600 hours and Sunset is at 1800 hours. Weather conditions are dry with mild temperatures that are expected to climb into the 100's.

The terrain is flat and rolling with sandy bottom, small hills, steep inclines marked by large rock outcroppings and deep ravines.

FACTS: You have been the Platoon Leader of 2nd Platoon, B Company, 2nd Battalion 66th Armor, for the past four months. You have participated in two field training exercises (FTX) in preparation for NTC rotation. During this time you have observed your platoon and have assessed their capabilities. Based on this you know:

- The TACSOP does not provide for work/rest plan during continuous operations.
- 30% of your personnel did not participate in any NTC train-up. They were transferred to your Platoon between train-up and deployment .
- Your platoon has trained to conduct movement to contact operations, but never in a chemical environment .
- 50% of the MOPP suits issued to your platoon are not serviceable .
- Your platoon does not have the equipment needed to conduct a breaching operation or to clear an obstacle.
- At some point during the mission, you will need to crosslevel your platoon's ammunition. Unreliable soldier discipline and leaders not enforcing standards may lead to mishandled ammo (excitement and haste under enemy threat).

H: MISSION
R: STANDARDS &
TRAINING

H: WEATHER
R: TRAINING

H: WEATHER
R: TRAINING

H: TERRAIN
R: TRAINING

H: TROOPS
R: STANDARDS

H: TROOPS
R: TRAINING

H: MISSION
R: TRAINING

H: EQUIPMENT
R: SUPPORT

H: EQUIPMENT
R: SUPPORT

H: MISSION
R: INDIVIDUAL &
LEADER

H = HAZARD

R = REASON

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

RESOURCES: ARTEP 17-237-10-MTP; BCT, 2AD, TACSOP (Cards 902-905); Small Unit Risk Management Booklet.

METT-T ANALYSIS

MISSION --Conduct Movement to Contact. On Order, deploy platoon into overwatch position and be prepared to Attack by Fire.

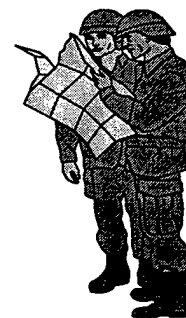
ENEMY --Three Heavy Tank Platoons and One Chemical Attack Company.

TERRAIN/WEATHER - Rocky desert. Maneuver in areas off established tank or engineered trails difficult due to large rock formations and deep ravines. Enemy obstacles. Clear, hot, and dry (Temperature 95-105).

TROOPS/EQUIPMENT--Highly motivated but at times displaying a lack of discipline. 30% of platoon has never operated in desert environment, and did not participate in NTC train-up. The soldiers have been at a high state of alert and operating in 24 hour continuous operations for the past three days. 50% of the platoon's MOPP gear is unserviceable.

TIME --Approximately one day to prepare. OPORD directs your company must be at objective NLT than 1800.

APPENDIX F
SOLUTION
SCENARIO 3 (AVIATION)



TASK: RELOCATE THE FARP
ARTEP 1-100-30-MTP
(01-2-7727)

MISSION: The POL Platoon, HQ CO, 123d ATK BN, will conduct FARP aerial relocation operations in support of a night, AH-64 deep attack mission using K Troop 2/7 CAV aircraft. The FARP will relocate using two of A CO, 123d ATK BN's UH-60's from (NK 560029) and have FARP operational NLT 040230NovXX at (NK 628031).

SITUATION: The peoples army of Muldavia has stepped up operational tempo in your area. Since the Muldavian's last forward advance, enemy artillery has become a greater threat to the aviation assets of the 123d ATK BN. Enemy strength continues to increase with the insurgence of newly conscripted personnel. Friendly resistance patrols have discovered newly constructed enemy positions which appear to be designed for the employment of ADA or SAM's. If construction of the sites is allowed to continue to completion and operational status is obtained, friendly aviation operations will be in serious jeopardy.

H: Enemy
R: Training

CONDITION: You are the HQ CO POL Platoon Leader and have been at NTC for the past two weeks. You have been conducting tactical operations for the past three days. It is 032100NOVXX. You have just received orders to relocate the FARP and have it operational at the new location (NK 598031) no later than 040230NOVXX.

You have two UH-60's on site to move your equipment and personnel to your jump FARP (forward) location. You have four 500 gallon fuel Blivets and will be operating four refueling points at one time using two FARE systems. Your platoon is seriously over extended with other commitments to the battalion. You only have a total of 8 personnel to conduct this mission. 20% of those personnel have recently transferred in from northern climates, have had minimal training with your unit, and have never conducted FARP operations with AH-64's..

H: Troops
R: Support &
Training

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

The weather has been dry and hot, with no forecasted precipitation. The temperature is averaging 93 degrees Fahrenheit during the day and 68 degrees Fahrenheit at night. There will be moderate illumination throughout the operation.

FACTS: You have been the POL Platoon Leader for the past 4 months. During this time you have planned and participated in two field training exercises (FTX) in preparation for this NTC rotation. The company safety officer has conducted a force protection (safety) assessment of all personnel within the company. Based on that assessment you know:

- Results from the force protection (safety) assessment identified 10% of the soldiers in your platoon were in the high or extremely high risk category for accidents (below standards due to lack of self discipline).
- Your platoon has supported numerous FARP operations and POL support missions over the past year, but only two night operations using NVDs during that time.
- The new FARP location has been reported to have sparse vegetation, and scrub brush. Soil conditions are conducive for dust/brownout conditions. The S-3 has completed an aerial recon of the location, but no one from your platoon, including yourself, is familiar with this site.

H: Troops R: Individual

H: Weather R: Training

H: Terrain & Enemy R: Training & Support

METT-T ANALYSIS

MISSION: Relocate FARP to support an AH-64 deep attack.

ENEMY: Indirect artillery with capability to range present FARP site and possible ADA/SAM capabilities.

TERRAIN: Plateau affords easy access, but is exposed on all sides. The weather is dry and hot, with no forecasted precipitation. The temperature is averaging 93 degrees Fahrenheit during the day and 68 degrees Fahrenheit at night. There will be moderate moon illumination throughout the operational time period.

TROOPS: 20 % of your troops have a low experience level for this task. Most of your soldiers are first term enlistees with less than 3 years of service. Previous training assessments indicate acceptable levels of proficiency. Number of available soldiers to conduct the mission is limited due to over extended support commitments.

TIME: Lack of training time due to enemy threat.

APPENDIX F
SOLUTION
SCENARIO 4 (AIR DEFENSE)

TASK: PROVIDE AIR DEFENSE FOR A CONVOY
ARTEP 44-117-21-MTP
(44-3-7002) (FM 44-31)

MISSION: Provide air defense for 2nd Brigade's tactical road march from Irwin City to the tactical assembly area, vicinity NK356215, NLT 010300MarXX.

SITUATION: The likely avenue of approach of enemy aircraft is from the north. Intelligence indicates there are enemy snipers in the area of operations. OPFOR aircraft have been observed in the immediate area of operation.

CONDITION: You are an Avenger Platoon Leader in A Battery 4th BN 44th ADA, and have been deployed with your battery at the National Training Center for two weeks. It is currently 201300FebXX. Your battery has been given the mission to provide air defense for 2nd Brigade's tactical road march, on 010300MarXX. The first serial will SP at 0300 hrs, with the subsequent serial departing at 0315. The convoy speed limit is 25 MPH with a catch up speed of 30 MPH. All vehicles will be on line two hours prior to roll out and will have TC's. Night vision devices will be used during this move. Your platoon is at 85% personnel strength, 50% of which are new to the unit and have never deployed to a desert environment.

H: Environment & Troops R: Training

Map recons indicate that you will be traveling on unimproved roads with some steep slopes of more than 22 degrees. Soil conditions are firm and rocky with large subsurface rock formations. Terrain limitations for overlapping fires should be no less than 4,000 meters and for mutual support not less than 3,000 meters as the terrain permits.

H: Terrain R: Support

Temperatures for March at NTC range from a high's in the 50's to low's in the 20's with strong winds. Precipitation during March averages approximately 2". The moon will provide only 5% illumination.

US ARMY SAFETY CENTER RISK MANAGEMENT FOR LEADERS

JAN 97

FACTS: You have been a platoon leader for the last 12 months. During this time you have observed your platoon's training and operations. You have conducted a safety assessment of the platoon; based on this, you know:

- Recently your unit participated in a battalion level FTX. Your unit was assessed as a (P) in the area of supporting battery fires (firing in sector while on the move).
- Night vision refresher training was conducted last month.
- During a previous exercise you had to continuously correct your soldiers on proper vehicle intervals when firing.
- TACSOP states there must be good visibility to identify aircraft, but does not address procedures for limited visibility.
- The 1st Section Leader is a very aggressive leader and pushes his soldiers to the limit. You noted during the last FTX, his soldiers sometimes only had 4 hours of rest in a 24 hour period and appeared extremely fatigued.
- Your unit has been acclimatized and is proficient in operating in cold weather conditions. Annual cold weather training has been conducted.

H: Mission
R: Training

H: Mission
R: Individual

H: Environment
R: Standards

H: Troops
R: Leader

METT-T ANALYSIS

MISSION-- Your section has been tasked to provide air defense assets to the 2nd BDE.

ENEMY--OPFOR aircraft have been observed in the immediate area of operation. Intelligence has informed your units of snipers in the area.

TERRAIN--Map recons indicate that there are unimproved roads and rocky conditions. Soil conditions are firm with suspected large subsurface rock formations. There are steep slopes in some areas with slopes of more than 22 degrees. There is a forecast for windy conditions with 5% Illumination.

TROOPS--Motivated and aggressive. 85% personnel strength, 50% of which are new to the unit and have never deployed to a desert environment. Your unit is not fully trained on firing in sectors while on the move. Additionally, your soldiers seem to have problems keeping the correct intervals between vehicles when firing.

TIME--Serial one will depart at 0300 hrs with serial two departing at 0315 hrs. Estimated time of travel is uncertain due to driving under night vision devices and driver proficiency and experience.

APPENDIX F
SOLUTION
SCENARIO 5 (FIELD ARTILLERY)

TASK: Deliver Field Artillery Fires
ARTEP 6-511-MTP
(06-1-02-3042)

MISSION: Provide direct support field artillery fires in support of 3d Brigade's movement to contact NLT 240400FEBXX, to locate and destroy the Tawakana Division of the Iraqi Republican Guard.

SITUATION: It is now 211200FEBXX. Your battery has been deployed to the Southwest Asian theater since 29 December. The Tawakana Division has been preparing and improving their defensive positions, incorporating tank ditches, minefields and other obstacle belts, since late September. After almost four weeks of air strikes, intelligence estimates their combat power at 95% with full operational capability to employ persistent and non-persistent chemical agents.

CONDITIONS: Your battery is at 102% personnel strength. 95% of these soldiers have never participated in any type of combat operation. In November you received the new M109A6 (Paladin). Your first actual training exercise (firing) with this system was on 3 January. Your crews are well trained in crew drills, but, you rate your section chiefs as a (P) partially trained because of their lack of training on the new electronic equipment which came with the M109A6. Your soldiers are acclimated to the cool weather in the desert. The predicted weather for 24 February is severe wind (30 + knots) causing sand storms with visibility less than 50 feet. No precipitation is predicted.

H: Troops R: Training

H: Weather R: Training

FACTS: You have been the battery commander for the past 13 months. Your soldiers have fired over 3,000 rounds safely in the M109A3, but, have only fired 250 rounds from the M109A6. Based on your training and experience, you know:

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

- The Tawakana Division has excellent counter-battery acquisition systems and is well trained in processing counter-fire missions.

H: Enemy
R: Training
- The dust and cool weather has caused numerous failures of the electronic devices on the M109A6 and in your fire direction center (FDC).

H: Weather
R: Support
- During your last ARTEP, your battery FDC was rated a (P) partially trained in manual fire direction procedures.

H: Troops
R: Training
- Your battery has not conducted any collective training with the 3d Brigade maneuver elements on breaching/reducing obstacles. You have no organic engineer assets with your battalion.

H: Enemy
R: Support & Training
- From previous experience at NTC and CMTC, you know there is little time for sleep/rest in a movement to contact operation. There is a distinct possibility your unit will be in MOPP 4 for a long period of time if the enemy sticks to their doctrine of employment of chemical munitions.

H: Mission
R: Support

RESOURCES: FM 6-50; ARTEP 6-115-MTP

METT-T ANALYSIS

MISSION: Provide direct fire support in support of 3d Brigade's movement to contact.

ENEMY: Tawakan Division is at 95% combat power. They have been preparing and improving their defensive positions, incorporating obstacles (tank ditches, minefields, and obstacle belts). Fully capable of delivering persistent and non-persistent chemical agents. Well trained in counter-fire missions.

TERRAIN: May encounter enemy obstacles. Severe winds (30+ knots), sandstorms and dust will limit visibility to 50 feet. Dust can cause equipment malfunctions.

TROOPS: Personnel strength is at 102%. 95% of the soldiers have never participated in combat operations. The FDC is partially trained in manual fire direction procedures. Crews are well trained in crew drills, however they lack experience with the new equipment. The soldiers are acclimated.

TIME: Approximately 3 days to prepare.

**APPENDIX F
SOLUTION
SCENARIO 6 (ENGINEER)**

TASK: CONDUCT BREACHING OPERATIONS
(05-2-0114)
(FM 5-34, FM 20-32, FM 5-101, FM 101-5-1).

MISSION: A Co / 22nd ENGINEER BATTALION will conduct breaching operations in the vicinity of OBJ STEEL, in the Republic of Mojave, on or about 112300NOVXX in order to maintain the momentum of TF Whiskey's attack.

SITUATION: The obstacle is a surface laid antitank minefield. It has three rows that are 200 meters long and 40 meters apart. The front of the minefield is marked by a single strand of barbwire along the length of the front row. There is a Motorized Rifle Platoon overwatching the obstacle. Intelligence believes that they also have the support of a artillery battery.

H: ENEMY R: TRAINING

CONDITION: You are the Safety Officer for A Co / 22nd ENG BN. It is currently 010900NOVXX. Personnel and equipment will depart for OBJ Steel on or about 111900NOVXX on TF vehicles. At the dismount point your unit will link-up with the designated TF breaching force and move ON FOOT, tactically to the last covered and concealed location before the obstacle. Breaching operations will begin on order of the TF Commander.

H: WEATHER R: TRAINING

The predicted temperature and weather for 11 NOV XX is a high of 72 degrees, a low of 44 degrees, and a 20% chance of rain. The terrain is rocky with steep ravines and sandy desert areas. This time of year it is usually dusty and dry.

H: TERRAIN R: TRAINING

FACTS: You have been the Safety Officer for the last eight months. During this time, you have observed all unit training and operations. A

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

safety assessment of the unit has been conducted. Based on this you know:

- The unit is at 95% strength. The commander rates the unit a "P" due to the fact that 40% of the soldiers arrived at the unit after the last train up.
- The unit's is trained on low visibility operations and on the use of NVG's but there are only two pairs of NVG's per platoon that are serviceable. Illumination will be at 40%.
- The soldiers will be performing missions under continuous operations. The OPORD does not not cover rest / sleep plans.

H: TROOPS R: TRAINING

H: EQUIPMENT R: SUPPORT

H: MISSION R: STANDARDS

RESOURCES: ARTEP 5-025-31-MTP; FM 5-34; FM 20-32; FM 5-101; Small Unit Risk Management Booklet.

METT-T ANALYSIS

MISSION: Conduct Breaching Operations.

ENEMY: Obstacle is overwatched with direct fire by a Motorized Rifle Platoon with a field artillery battery giving indirect fire support.

TERRAIN: Rocky desert that has steep ravines and soft sandy areas. This time of year it is dry and dusty.

TROOPS: The soldiers are highly motivated, but will be tired due to continuous operations. Troop strength is at 95% with 40% of the soldiers untrained at this task.

TIME: The obstacle will slow down TF Whiskey's attack on OBJ Steel. This obstacle must be reduced by 112400NOV97 or there is a chance of the TF receiving direct and indirect fire.

APPENDIX F
SOLUTION
SCENARIO 7 (TRANSPORTATION)

TASK: Plan Occupation of New Area of Operation
ARTEP 55-716-30-MTP
(55-2-1007)

MISSION: 60th TRANS CO will begin occupation of the forward support base (PT 564321), and be operational NLT 071700NOVXX.

SITUATION: Intelligence indicates the enemy has been attacking logistical units with aircraft, artillery, and ground forces (possibly a platoon size element), in an attempt to disrupt logistical support and main support routes. Additionally, reports indicate the enemy is conducting nuclear, biological, and chemical (NBC) operations to further disrupt/restrict units from accomplishing their missions. It has been reported also that there are mine fields one kilometer north of the new location (NK456432).

CONDITION: You are the Commander of 60th Transportation Co. which has been deployed to CMTC, Hohenfels, Ge. in support of the 2nd Cav Div for two weeks. Your company missions consist of ration pick-up and twenty four hour tank recovery operations. You have sixty HETs, ten M939 series 5-Ton vehicles, and six HMMWVs in the unit. You have just received warning orders to deploy to a new area of operations

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

(NK456432) with an SP time of 070400NOVXX. It is now 040600NOVXX, and you are required to have your unit operational NLT 071700NOVXX. The division's contingency plan includes support from an engineer mine clearing team, three Black Hawks, and artillery support from the 75th FA Bde. Your unit is operating at ninety percent personnel strength. The weather has been cold and rainy with temperatures in the low twenties with heavy fog during early morning hours. Winds are forecasted to be northerly at thirty knots. The new operating area is thirty five kilometers from your current location. The terrain at the new area of operation is open and muddy and provides little or no cover or concealment.

FACTS: You have been the Company Commander for the past six months. During this time you have observed the units training and operations. A force protection safety assessment of the unit has been conducted. Based on this, you know:

- 20% of the soldiers in the unit are new and 40% have received no training on night operations in the last twelve months.
- Several days ago, one of your M939 5-Ton cargo vehicles overturned while returning from a commitment due to excessive speed for conditions. The driver and senior occupant were not wearing seatbelts, and had been briefed on the hazards associated with the M939 series 5-Ton.
- Two soldiers in the unit have already sustained cold weather injuries. Your unit has not conducted annual cold weather training.
- During the last ARTEP, your unit was evaluated untrained (U) on crossing radiological and chemically contaminated areas.

H: TROOPS &
MISSION
R: TRAINING

H: TROOPS &
EQUIPMENT
R: INDIVIDUAL
& LEADER

H: WEATHER
R: TRAINING

H: ENEMY
R: TRAINING

RESOURCES: ARTEP 55-716-30 MTP: ARTEP 55-28 ,FM 21-305 TC 21-305-3,4&5.

METT-T ANALYSIS

Mission: As stated.

Enemy: Platoon size ground element with aircraft and artillery.

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

Terrain: The immediate area is wet, cold and muddy with temperatures in the low twenties and predominant wind forecast to be northerly at 30 knots. This area has numerous wadis, large rocks and high sloped terrain on two sides.

Troops: Your unit is operating at 90% personnel strength, However, 40% of your soldiers have not trained on night convoy operations in the past twelve months.

Time: Your unit will deploy at 070400NovXX to a new location during hours of darkness.

**APPENDIX F
SOLUTION
SCENARIO 8 (SIGNAL)**

TASK: INSTALL LOS RADIO TERMINAL AN/TRC 190(V)
ARTEP 11-067-30-MTP

MISSION: Deploy one Extension Switch Section from your platoon to establish and provide communications for the Brigade Jump CP.

SITUATION: The time is 070900Mar XX. There has been enemy activity daily. Last night at 0215 your site was probed by a squad sized enemy patrol. The need for a higher level of security disrupted your sleep plan and resulted in sleep deprivation for your entire platoon. Enemy activity has been increasing in frequency and intensity over the last 72 hours. Indications are that the enemy is operating squad sized dismounted patrols in an attempt to disrupt communications and interrupt supply lines.

H: ENEMY R: SUPPORT

CONDITION: You are a Node Center Platoon Leader with the 124 SIG Bn. Your platoon deployed from Ft Hood to the National Training Center (NTC) on 150900FebXX in support of 1st BDE. You have been in the area of operations (AO) for two weeks. You have been given the mission to provide communications to the BDE Jump Command Post. BDE has

US ARMY SAFETY CENTER RISK MANAGEMENT FOR LEADERS

JAN 97

directed that your commo package will deploy with the advance party at 080530MarXX and communications will be hot NLT 080900MarXX. Since your platoon's arrival two weeks ago, you have taken the appropriate steps to acclimate your soldiers. You have conducted training on cross country driving skills, MOS specific tasks and basic soldier skills. You have been operating for the past 7 days in a tactical environment with 24 hour a day continuous operations. Due to personnel turn over rate, you have to consider sending two new soldiers with the jump team. Both soldiers arrived from the 31D10 course at Ft Gordon, GA just one week prior to your deployment. The jump site is approximately 20 Km from your current location. It is on high ground that is generally uneven with a 20 degree slope. The soil is firm and rocky with suspected large rock formations in the subsurface. The route in will be along an unimproved road with deep ruts and numerous washouts. The weather forecast is clear with temperatures in the low40s to the upper30s with a 15-20 mph NW wind, with blowing sand and dust.

FACTS: You have been the Node Center Platoon Leader for the past twelve months. During this time you have participated in company level training exercises. Based on your experience , you know;

- This is the first FTX for the new soldiers in your platoon.
- 50% of your platoon (including yourself) has never been to NTC.
- Your platoon is at 85% strength.
- The platoons operational readiness (OR) rate is 95%.
- In the past, soldiers have not taken the appropriate gear with them on a mission.
- Shift schedules have not been established.

METT-T ANALYSIS

MISSION-- Deploy one Extension Switch Section from your platoon to establish and provide communications for the division Jump CP.

ENEMY--OPFOR activity has been observed, dismounted forces. Frequency and intensity of enemy activity is increasing. The company reacted to enemy probes at 0215.

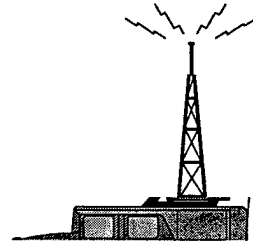
TERRAIN--Recon indicates jump site location is on high ground generally unleveled with a 20 degree slope. Soil conditions are firm and rocky with suspected large subsurface rock formations. Designed route of egress is unimproved road with deep ruts and numerous washouts. Turning cold (from 40s to 30s) with a NW wind of 15-20 mph with blowing sand and dust..

TROOPS--Motivated and disciplined. The section deployed received two 31D10 soldiers from AIT, Ft Gordon, GA three weeks prior to deployment.

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

TIME--Advanced party with communications packaged will depart at 0530. Estimated time of travel is uncertain due to driver proficiency and road conditions. OPORD directs a COMZ hot NLT 0900.



APPENDIX G

Applying Risk Management to an MTP Task

1. Training Objective:

Task: Apply the risk management process to a Mission Training Plan (MTP) task. The Risk Management Worksheet will be used to verify hazard identification, control selection and methods of implementing and selecting appropriate controls.

Conditions: Leader has completed the Risk Management quiz and evaluation exercise. Given an MTP task, Small Unit Leader's Risk Management Reference Booklet, unit TACSOP, unit safety SOP and a blank Risk Management Worksheet with instructions.

Standard: The platoon leader will fill out the Risk Management Worksheet in accordance with the instructions. The worksheet will contain:

- a. At least four hazards related to the accomplishment of the mission.
- b. The initial risk level for each hazard.
- c. At least one appropriate control for each identified hazard.
- d. Appropriate methods to implement and supervise selected controls.
- e. The residual risk level for each identified hazard.
- f. The appropriate risk level for the overall mission.
- g. The appropriate level of command that can make the risk acceptance decision for the mission's residual risk level.

The platoon leader should include the hazards identified through risk management and the control measures selected in the OPORD/FRAGO that he/she gives to the platoon.

2. Procedures

- a. The CO CDR/OC will select an MTP task that will be accomplished during the course of a scheduled training event.
- b. Instruct the platoon leader to complete a Risk Management Worksheet for the selected mission. The platoon leader should use the tools used for mission analysis (such as METT-T and Troop Leading Procedures) to identify potential hazards for the selected mission.

**US ARMY SAFETY CENTER
RISK MANAGEMENT FOR LEADERS**

JAN 97

c. Provide the platoon leader adequate time to involve the other members of the platoon (platoon sergeant, squad leaders, tank commanders, section leaders) in the identification of hazards and the selection of appropriate controls.

d. Require the platoon leader to include the Risk Management Worksheet analysis in the brief-back to the CO Cdr/OC. Retain the worksheet for use in the AAR once the mission has been accomplished.

e. Any new hazards which soldiers identify during the execution of the mission should be brought to the attention of the platoon leader and he/she should subject them to the same analysis as those identified during the planning process. A Risk Management Worksheet does not need to be completed, but the same thought process should be applied to determine if any additional controls are needed and what the residual risk level is for each of these new hazards.

OPTION

To evaluate the platoon leader's ability to apply the principles of risk management in a more stressful situation, substitute the paragraph below for paragraphs 2.b. and 2.c. above.

In a tactical environment, have the platoon leader prepare a Risk Management Worksheet as part of the orders process and include it in the brief-back to the CO CDR/OC. Collect the worksheet for use during the AAR.

3. Evaluation.

During the AAR, the CO CDR/OC will use the completed Risk Management Worksheet to stimulate discussion on identification of hazards and development and implementation of adequate controls.

a. Ask soldiers if they received the information contained on the Risk Management Worksheet.

b. Ask the platoon how effective the control measures used during the mission were at reducing risk. Ask what additional control measures may have been needed and what control measures could have been eliminated.

c. Discuss new hazards identified during the mission and the effectiveness of actions that were taken to reduce the risk associated with these hazards. Discuss what additional control measures could have been implemented for these newly identified hazards and whether or not they would have been effective.

Using the Risk Management Worksheet prepared by the platoon leader, direct observation and information gained during the AAR, the CO CDR/OC will determine if the platoon leader appropriately applied the principles and procedures of risk management.

APPENDIX I
ADVANCE SHEET

1. Overview. This lesson will show you the requirements for incorporating risk management into your daily operations. The lesson consists of instruction, discussion and practical exercises.

2. Learning objectives.

a. Terminal Learning Objective (TLO). Apply the risk management process to a mission training plan task, as a leader in a garrison or tactical environment, by correctly answering questions about basic risk management concepts and terms. And complete the worksheet for the scenario provided in accordance with the worksheet instructions.

b. Enabling Learning Objectives (ELOs).

- (1) Identify the three categories of accident cause factors.
- (2) Define the underlying sources (reasons) of accident cause.
- (3) Identify and define key terms associated with Risk Management.
- (4) Identify hazards using METT-T factors, available hazard detection resources and personal experience/expertise.
- (5) Determine the level of risk.
- (6) Develop control options and make risk decisions.
- (7) Discuss how to implement, supervise, and evaluate the effectiveness of controls.

3. Assignment: none.

4. Additional subject area resources: none.

5. Bring to class: Pencil and paper and advance sheet.

